

Home Office

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**Desktop
Publishing:
Creating Better
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**The Big Switch
From Paycheck
To Profit
Mentality**

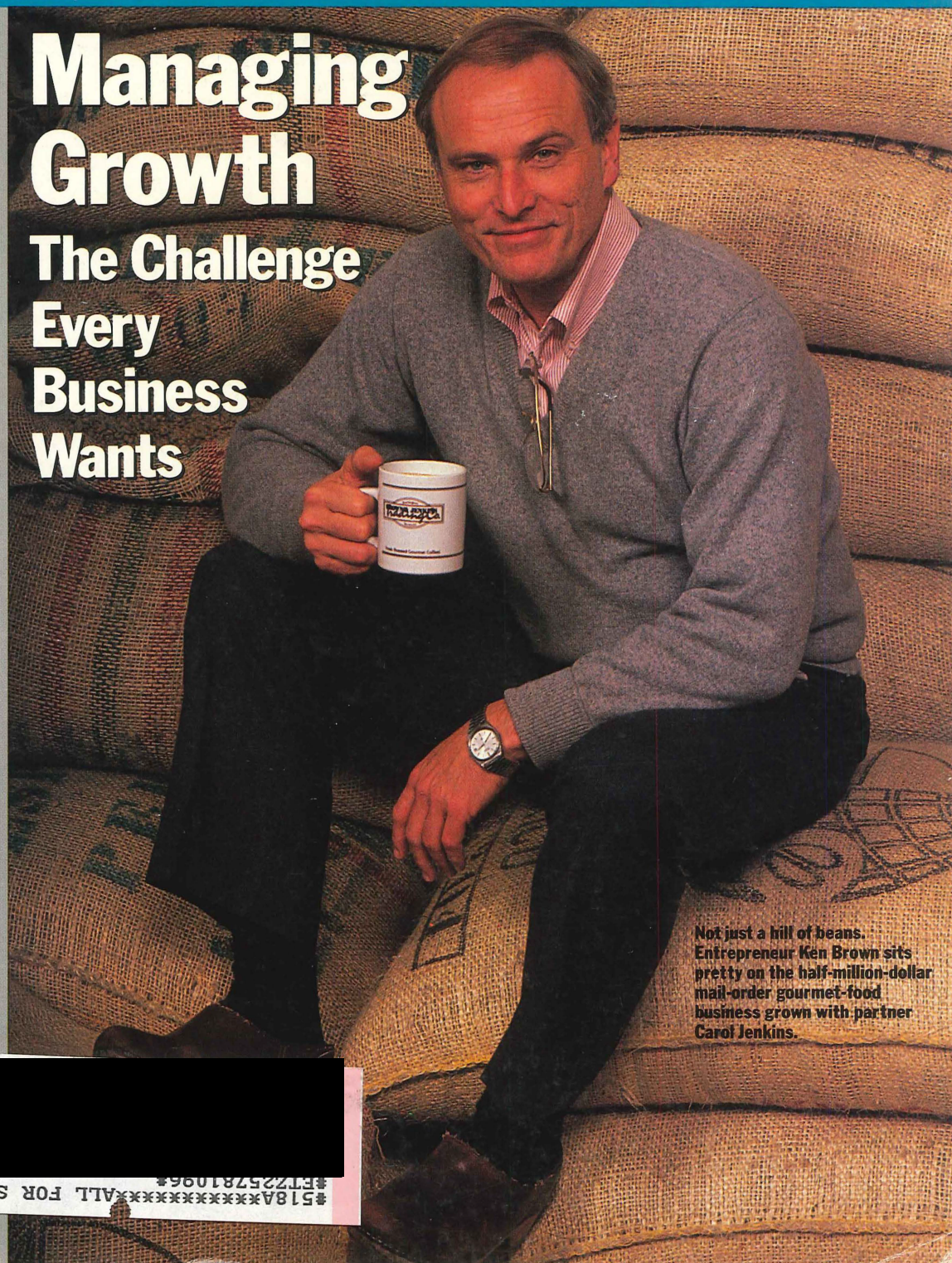
**How to Improve
Your Writing
Skills for
Business**

**40 Hardware
And Software
Reviews**

**Business Diary,
Part I: Leaving
The Corporation**

Managing Growth

**The Challenge
Every
Business
Wants**



Not just a hill of beans. Entrepreneur Ken Brown sits pretty on the half-million-dollar mail-order gourmet-food business grown with partner Carol Jenkins.



Panasonic KX-P1624 24 PIN Multi-Mode Printer

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☐ OTHERS ☐ LEFT MARGIN ☐ R

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Courier Pica
Prestige Elite
**Bold Proportional
Space**
Sans Serif Pica
Script Pica

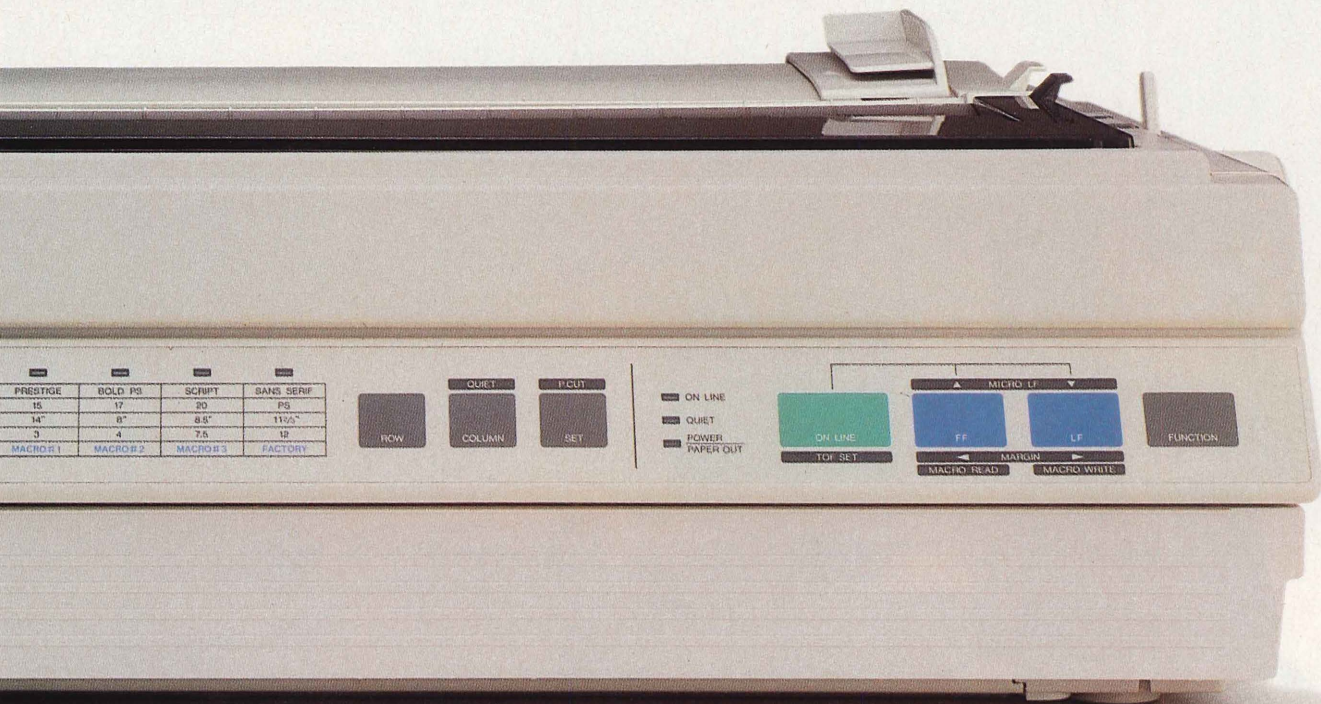
True letter quality, high-resolution graphics, and seven resident fonts, so it's ideal for all your office applica-

tions. You'll find the 1624's letter-quality mode as fast, or faster, than most popular 9 pins. Up to 63 LQ characters per second. With its 360 x 360 dpi bit-mapped graphics, you can incorporate special printed effects into your documents. Like company logos and line art.

20 features, including 4 macros, right at your fingertips. What could be simpler?

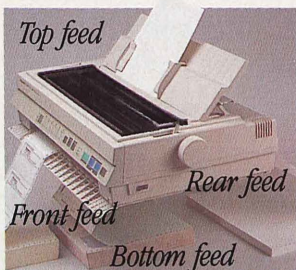
Even macros that recall all the settings for a particular document at the touch of a single key.

Done.



Multiple paper paths mean you can put this printer exactly where you want it. There aren't many places in an office to conveniently put a printer.

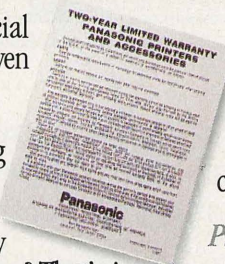
So the 1624 gives you a choice of 4 different paper paths: single sheets from the top, and fanfold from the front,



Only one paper path is available at any given time for continuous paper.

bottom or rear. A special 'Paper Park' feature even lets you feed single sheets from the top, without removing rear-fed fanfold.

A 2-year limited warranty in this day and age? That's investment protection, Panasonic-style. You'll find 2-year warranties rather rare in the printer industry. But standard with the Panasonic 1624.



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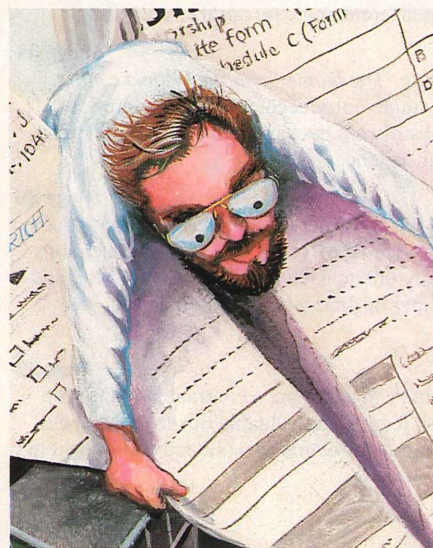
CIRCLE READER SERVICE 65



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COVER PHOTOGRAPH BY ROB CRANDALL

FEATURES

COVER STORY

Managing Growth: The Challenge Every Business Wants

Page 43

Expansion is a risky proposition for any business. How can you grow your business and minimize the risks? The three home-based businesses profiled here each took a different approach to enhancing sales, increasing customer bases, and boosting profits. *Plus:* 14 tips for business expansion.

HOW-TO

Make Printed Business Material Stand Out

Page 48

Your message may be solid, but if it doesn't demand attention, it will go unnoticed. Here, you'll learn some basic design and typography techniques with which you can create brochures, fliers, newsletters, catalogs, and correspondence that stand out from—and pull in—the crowd.

BUYER'S GUIDE

Laser Printers

Page 53

Laser printing is not just a luxury anymore; it's fast becoming a necessity. This question-and-answer guide to laser printers will introduce you to the technology and the standard options (Hewlett-Packard and PostScript) and then help you decide which would be best for your home office. *Plus:* Reviews of three new HP-compatible printers and three new PostScript printers, an update on the Apple LaserWriter, and a comparison chart of these and 19 other laser printers.

PROFILE

Business Diary, Part I: Leaving the Corporation

Page 59

This new HOME-OFFICE COMPUTING series follows one person's shift from a corporate to home-business lifestyle. The first installment focuses on some initial steps that can make the transition easier: tying up loose ends with the corporation, managing bonuses or pension payments, and developing an identity and business name that work for you.

SOFTWARE

The Latest Words

Page 62

The hot new versions of Microsoft *Word* (for MS-DOS and Mac) are setting new standards in screen handling, style sheets, and formatting for all high-end word-processing packages. What are the capabilities of these new programs, and how can their high-powered features benefit your business?

PRODUCTS

Hardware Reviews

Page 68

Miniguide to Desktop-Publishing Monitors: Reviews and a side-by-side comparison of Cornerstone's SinglePage XL, Moniterm's Viking Portrait, and Princeton Publishing Labs MultiView with GraphixPro controller. *Scanner:* Mitsubishi Page Scanner. *Telephone Call-Tracking System:* WordTech TimeScribe.

Software Reviews

Page 82

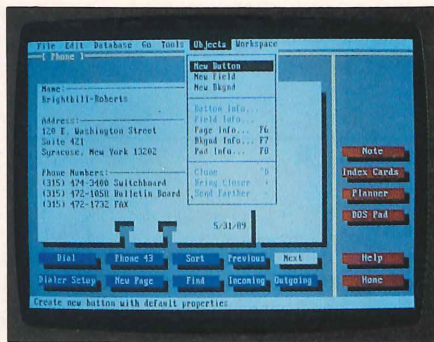
Reviews of *The Register Program*, *Rolodex Live!*, *Expeed*, and *Focal Point II*—four packages that can help organize your time, clients, projects, and contacts. *Plus:* Learning and leisure software reviews of *Kieran v2.0*, *BannerMania*, *John Madden Football*, *688 Attack Sub*, and *Arkanoid II: The Revenge of Doh*.

Office Essentials

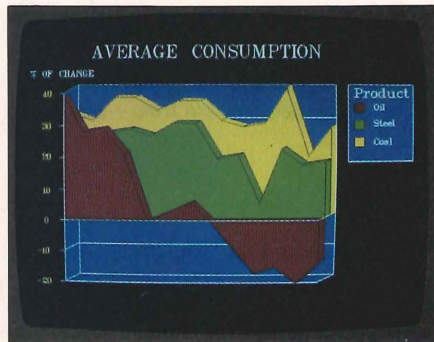
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The latest in office products, services, and gadgets. *This month:* A convenient disk-mounted calculator, a wrist rest for heavy keyboarding, a floppy-disk drive cleaning kit, and more.

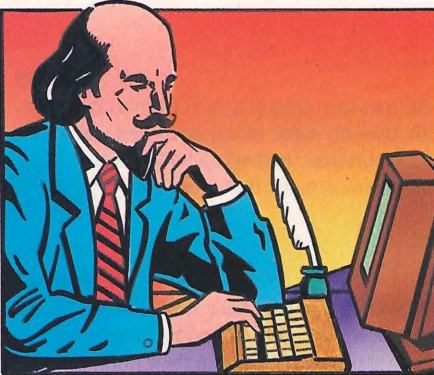
C O L U M N S



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ShopTalk

Page 18

Deciphering Zoning Codes. Home-business consultant Joanne Pratt advises readers on researching and understanding zoning laws for home-based businesses, enforcing business hours, and getting high-resolution video output from your software.

Clinic

Page 21

Answers to Your Computing Questions. HOME-OFFICE COMPUTING's editors answer readers' questions about troubleshooting printer problems and reinstalling faulty software.

Machine Specifics

Page 22

Fonts to Pretty the Printed Word; Capture Television Images on Your Mac; A Look at Two Apple II Hard-Disk Drives. Hardware and software news, opinions, quotes, and rumors about the IBM/MS-DOS, Macintosh, and Apple II universes reported by HOME-OFFICE COMPUTING's insider columnists.

Working Smarter

Page 40

From Paycheck to Profit Mentality: The Big Switch. The mental shift from coddled employee to home-based entrepreneur—from expecting a paycheck to turning a profit—can be difficult. Making that switch, however, is crucial to your business's success.

Workstyles

Page 112

Minding Business, Minding Kids. Contending with deadlines, day care, and doctors could qualify our telecommuting senior editor Nick Sullivan for Dad of the Year. Here, he shares some of the ups and downs of parenting and running a home-based business.

D E P A R T M E N T S

Editor's Note

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Letters

Page 10

Up Front

Page 12

News, advice, tips, and a shot of humor on computing, using home-office technology, and running a home business. *This month:* Experts predict home-office trends for the coming decade, businesses jazz up their phones with CLASS, *Word does Windows*, and HOME-OFFICE COMPUTING offers a new service to bring readers together.

Desktop Publishing

Page 26

Timesaving Tips for Making Text Look Professionally Typeset. Forget about flashy fonts and snazzy page design. To produce really good-looking copy you have to start with the basics. And some not-so-glamorous word-processing functions—search and replace, spell checking, and others—can help you prepare your copy for desktop publishing.

Spreadsheets

Page 30

Does a Spreadsheet Have to Be 1-2-3 to Be Good? In a world bitten by the Lotus bug, *Twin Level III* and *SuperCalc5*, two full-featured spreadsheet packages that can grow with your business, offer home-based professionals a different angle on number crunching.

Finance

Page 34

Cut the Time You Spend on Formal Bookkeeping. The *Dome Simplified Bookkeeping System*, which originated years ago as a manual single-entry accounting procedure for small businesses, is now an easy-to-use financial software package that delivers the basics and lets you keep your books without losing your patience.

Telecomputing

Page 36

Reach Anyone, Anywhere, Anytime—with E-Mail. DASnet lets you reach out and touch someone—even if they have a different e-mail service from yours. It's a communications service linking e-mail networks that can't normally talk to each other. Now MCI Mail and Easylink, Telelink and BIX, and more than 50 other on-line services are linked for easy telecommunicating.

Business 101

Page 38

How to Write for Business. Are you the type that can negotiate a contract in your sleep but can't write a good business letter? Here you'll learn some valuable tips from business-writing guru Patricia Westheimer that can really put your words to work and add impact to your correspondence.

Best-Selling Software

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Home-Office Shopper/Classifieds

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Advertiser Index

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THE \$49 TAX RETURN SOLUTION.



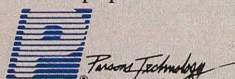
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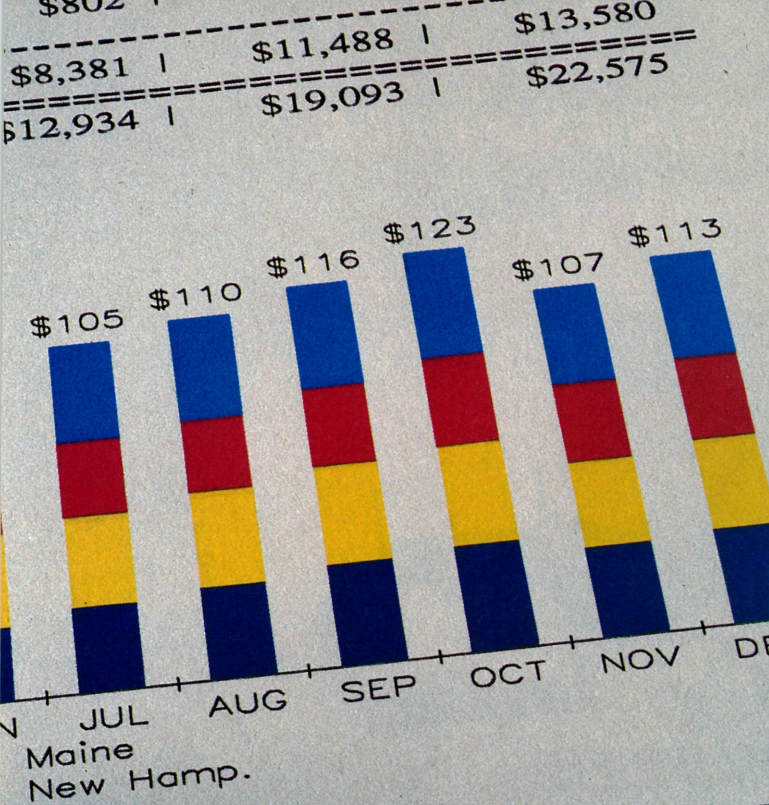
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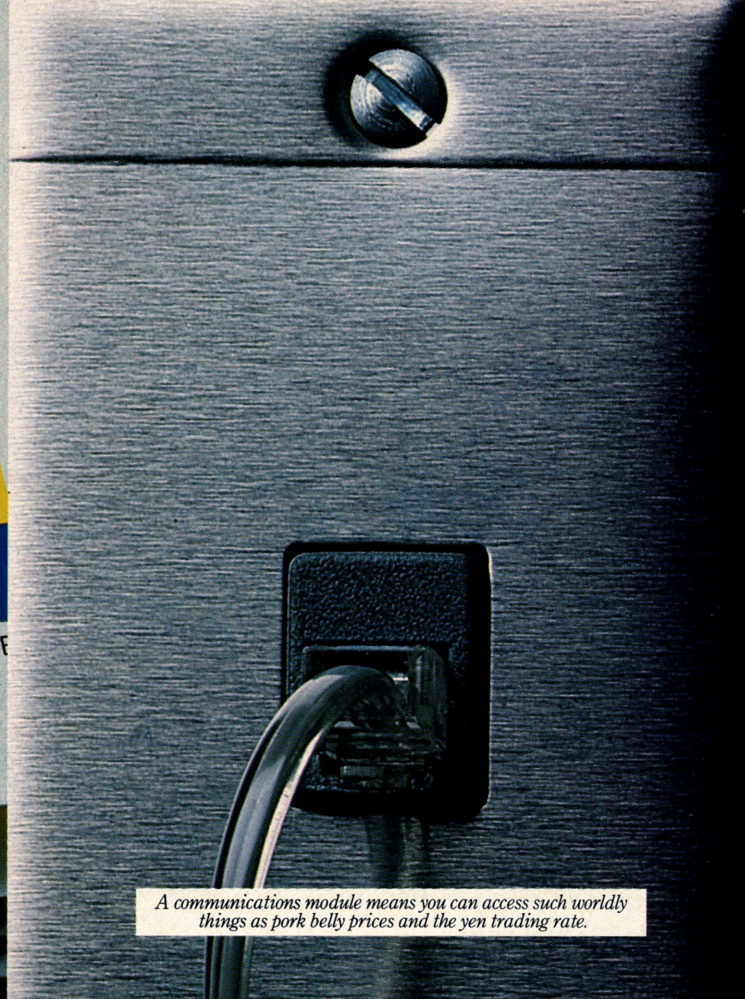
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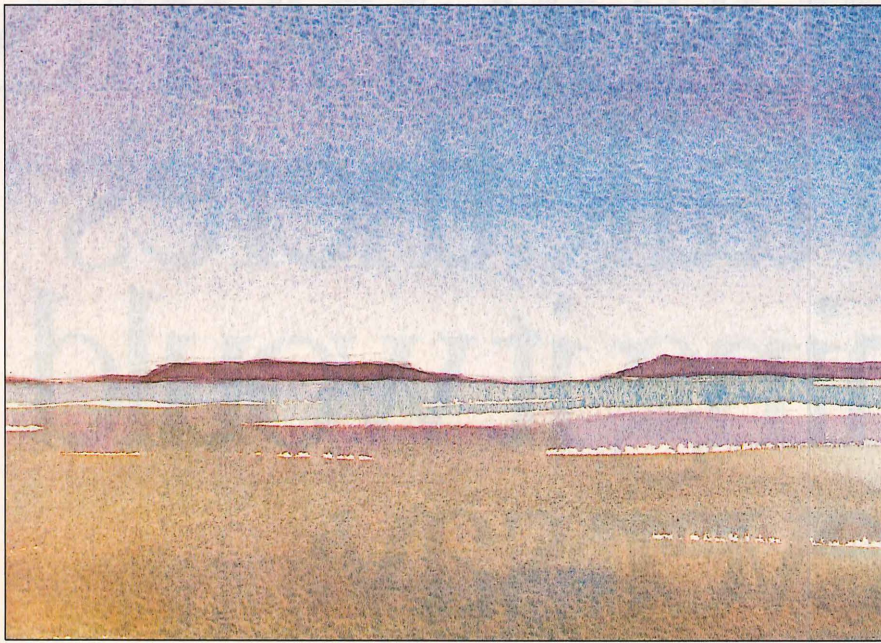
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DRAWING BY CLAUDE VAN LINGEN



Things That Give One Pause

All of us with too much to do—and that probably means all of us—fail to stop and think as often as we would like. It takes something like running out of calendar pages, a major disaster, or a death to make us deviate from our well-worn ruts.

All three of these apply as I write this note. This January issue signals that another year and, in this case, another decade, are over. The earthquake in northern California is of special significance to the technology industry. Among the casualties of this disaster was John Anderson, a staff member of *MacUser* and a former contributor to this magazine.

Working together, John and HOME-OFFICE COMPUTING senior editor Nick Sullivan struck up a friendship, which Nick thought would last for a long time. They had a lot in common: age, a wife and two children, an industry. In a note to me, Nick wrote, "John had a deeper knowledge and love of computers than most writers. . . . He was a technical purist who, in addition to being a journalist, believed in using all available tools to make the best possible software. . . . He was a creative thinker and a creative doer, but not so far gone that he couldn't communicate with others. . . . I thought we would be friends for life, which I hoped would be a very long time."

It's hard in this note, as it is in life, to get back to the more mundane issues of any

given day. But the only antidote, the only way to deal with grief, is to live. That's what a wise man once told me. And he was right.

In this new year, we are working to make HOME-OFFICE COMPUTING better meet your business and technology needs. We read your letters, comb your responses to questionnaires, and talk to groups of readers and nonreaders struggling to start and grow their own work-from-home ventures.

Two changes in this issue reflect your comments. You'll note that we discontinued the Family Computing section, based on your advice. But education and entertainment reviews still appear—as you requested—with the other software reviews (see page 86). And, in our Up Front section (see page 16), we announce The Network, a new service designed to help connect readers with similar or complementary needs, problems, or interests.

The year is just beginning. Our reflecting about your needs will continue and so will our dedication to making HOME-OFFICE COMPUTING better serve you.

CLAUDIA COHL
EDITOR-IN-CHIEF



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LETTERS

AGAINST INCORPORATION

I read with interest Wesley J. Smith's article "Should You Incorporate?" in your October issue (page 58). I incorporated last November on the advice of my attorney. I had been a sole proprietor for two years before that. I have no intention of hiring employees, but I thought incorporating would help me with deductions and benefits and shelter me from personal liability.

As the article pointed out, tax angles ain't what they used to be for incorporated businesses. Two CPAs have told me that since I incorporated the IRS seems to come out every few weeks with new rulings that further weaken the arguments for incorporating.

As far as shelter from liability goes, you have to be careful about how you behave as a corporate entity. If you don't dot your *i*'s and cross your *t*'s, your liability shield can



be easily pierced by a sharp-eyed attorney.

Larger companies can afford to pay big bucks to good tax attorneys to make sure everything is always correct. But I decided to let my corporation dissolve at the end of the year.

As one of my CPA friends put it, I will be at least as well off as a sole proprietor with good errors-and-omissions insurance as I was as a corporation relying on a fuzzy liability shield that I didn't have the cash or time to fully understand.

I think I'll be better off as a sole proprietor because I already know and understand those tax angles—I won't need anybody's help.

SCOTT WHITEHEAD
Austin, Texas

QUALITY CONTROL

I make my living as a film stripper in the printing industry. I am the person who takes camera-ready art and pasted-up mechanical boards, shoots film of them, strips the pieces of film together, and cuts masks for color so plates can be made and then run on a printing press.

I have been directly affected by the do-it-yourself desktop-publishing boom these last few years, and I would like to tell your readers what desktop publishing means to a film stripper:

- Art improperly sized for its spot, or "window," on the mechanical plates

- Rules for photographs that end up three-sided because one edge bleeds off the page
- Half-point rules around photographs that I have to cut windows for (with that small a line, it is very difficult to cut windows of any quality)
- Placeholder stats that are either unrecognizable or of very poor quality

The list goes on.

I am not trying to rid the world of desktop publishers, but I would like to remind them that time is money. The more time I spend fixing mistakes, the more money they will be charged. I hope that DTPers will look out for the problems I listed above—it will save them money and me headaches.

BOB WOOD
Rialto, California

TOO LITTLE? JUST RIGHT? PART II

I am writing this letter in response to A. Paul Muller's letter in the October Letters department ("Too Little? Just Right?," page 10). If 99 percent of the information about modems that he called common knowledge were common knowledge then I wouldn't have to read HOME-OFFICE COMPUTING. But since I don't have the slightest idea about what a modem can do, your magazine is very valuable to me.

October's was my fourth issue of HOME-OFFICE COMPUTING. It seems that with each issue I learn more and more about PCs. True, there are other magazines aimed at more experienced computer users; and they are useless to readers who don't understand the basics.

Thanks to "Which Financial Software Is Best for You?" (October, page 49), I was able to pick up a program that automates my company's rental property records and helps track expenses.

Thank you for producing a magazine that is understandable for those of us who are just becoming computer literate.

ELVIS LENIGER
Guthrie, Oklahoma

CORRECTION

In "Which Is the Best Financial Software for You?" (October 1989, page 49) we listed an incorrect telephone number in our review of *One-Write Plus Accounting System* on page 55. The correct number to call to find out more about the package is (603) 889-5400. ■

HOME-OFFICE COMPUTING looks forward to letters from all readers. Please direct correspondence to Letters to the Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include name, address, and telephone number. Letters become the property of HOME-OFFICE COMPUTING and may be edited for length and clarity.

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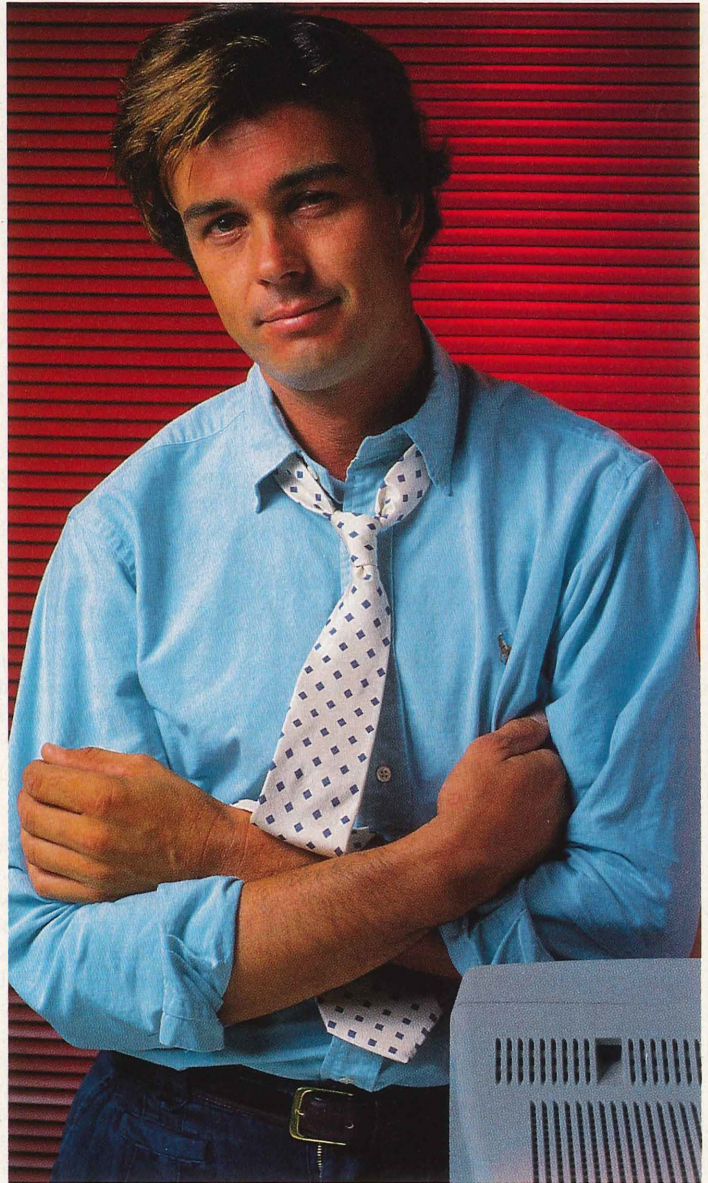
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CIRCLE READER SERVICE 29

EDITED BY KAREN KANE

Trends for the 1990s: The Home Office Hits Puberty



The home office has received a lot of attention of late from equipment manufacturers, market researchers, and the media. Born with the introduction of the personal computer and fed by advances in technology and changing attitudes in the corporate world, working from home has become a fast-growing trend. So what kind of growth can we expect as home-office computing enters its teens? Here's what the experts say:

1. Many Baby Boomers Will Start Working from Home. According to Tom Miller, who directed the National Work-At-Home Survey for Link Resources, a phenomenal increase in the number of 35- and 45-year-olds may mean more work-at-home professionals. Miller expects that this influx of baby boomers reaching their prime working years will fuel entrepreneurial projects and alternative workstyles, such as telecommuting.

2. Technology Will Be Cheaper, More Compact, and Easier to Use. Casey Dworkin, general manager and founder of Personal Technology Research, expects to see a continued evolution of the "mobile office." "The ideal home office would be one that you could take with you," says Dworkin. Advances in microcell technology, for example, could produce a hybrid of cordless and cellular telephones with increased range and clarity.

Even standard desktop equipment will be more compact and offer more features at a reasonable price. According to R. Stephen Jenks of the Portsmouth Consulting Group, "We'll start to see more multifunction machines that combine the abilities of a copier, laser printer, and facsimile." And, says Jenks, the "connectivity" of the home office—its ability to stay connected with the outside world—will increase as on-line information networks become significantly cheaper and easier to use.

3. Big Businesses Will Promote Telecom-

muting. In addition to advances in technology, Lis Fleming, telecommuting consultant and author of *The One-Minute Commuter*, expects governmental pressures to hasten the move toward telecommuting. "There are trip-reduction ordinances for commuters popping up all over the country," says Fleming. "Companies are going to start sending their employees home because they're not going to be able to get them all on buses or in car pools. The result should be lower pollution and higher productivity as people spend less time traveling and more time concentrating on their work."

4. Corporate Downsizing Will Bolster Demand for Subcontractors. Despite pressures on corporations to develop work-at-home programs, Gil Gordon, a management consultant who specializes in alternative work arrangements, does not expect telecommuting to affect more than 10 percent of the work force during the 1990s. The real growth will be among self-employed entrepreneurs and moonlighters. Says Gordon, "I sense tremendous insecurity among a lot of corporate people. Because of all the downsizing from mergers and acquisitions, even the good employees feel as if there is a sword hanging over their heads." As a result, he explains, more people are convinced that they can have as much security outside the corporate structure as within it.

Corporate downsizing will help support home-based businesses by increasing the demand for freelance and sub contracted support services. "As working from home becomes more widely accepted, corporations will hire former employees on contract and turn to outside services instead of adding employees," says Gordon.

5. Home-Based Businesses Will Network More Effectively. "The introduction of broadband networks—which can deliver voice, data, and video over a single, fiber-optic telephone line—will enable home

workers to communicate in new ways," says Clement Bezold, futurist and executive director of the Institute for Alternative Futures. Presenting a multimedia sales pitch to remote colleagues will be as easy as making a conference call.

Jack Nilles, president and founder of JALA Associates and creator of the term *telecommuting*, believes that home-based business people will start to network among themselves to strengthen their business ties. "These interconnections will cultivate new kinds of business relationships," Nilles refers to these new types of production groups as Network Organizations. They will be formed by groups of individuals or small companies coming together to work on a specific project, after which the organization might dissolve or stay together.

As this trend starts to take hold over the next few years, Nilles predicts, new opportunities will arise for people who can serve as administrators, or brokers, for these informal collectives. Aside from administrative functions, the broker could also be a source of some of the insurance and health benefits that are provided today by the corporate structure.

People with professional expertise who work from home will need to concentrate on what they are good at and leave the details to someone else—similar to an actor-agent arrangement.

Generally, the consensus among the experts seems to be that we will see a steady evolution of the trends that began in the home-office market in the mid 1980s. "I would call it a revolution by increments," says Casey Dworkin. "You won't just wake up one day and say 'Gee, the world is different today than it was yesterday.' Rather, the technologies that we have now will provide the base for further advances." And working from home will make more and more sense.

—STEVE WILLIAMS

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CIRCLE READER SERVICE 43

Add a Touch of CLASS to Your Telephone System

Teach a few new tricks to an already solid performer and what do you get? You get a CLASS act.

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- **Call Tracing.** If prank calls are tying up your telephone lines, use this feature to trace the source. The phone company will follow up with an investigation.
- **Call Block.** Are there people you don't want bothering you? This feature lets you block up to six telephone numbers. Callers from those numbers will hear a recorded message until you decide otherwise.

• **Call Selector.** Need some uninterrupted time for work but don't want to miss an important call? With this feature a distinctive ring will let you know if it's someone special. Again, you can program up to six numbers.

• **Preferred Call Forwarding.** Forward only those calls that may be important and let your answering machine handle the rest.

The cost is \$4 for the first and \$3 for each additional custom feature per month. And you don't need additional equipment or even a service call for installation. Everything's done by computer. To find out if this service is available in your area, or if not, when it will be, contact your local telephone company's business office.

—RICHARD G. SHEFFIELD

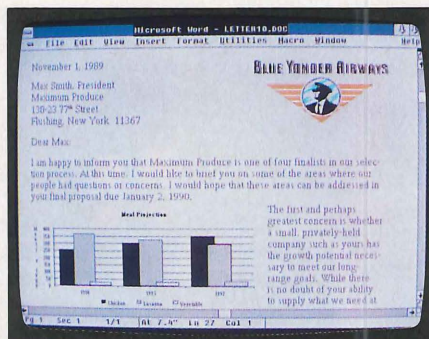
Who Says a PC Can Work Like a Mac? Microsoft

MS-DOS users with Macintosh envy, take heart. Microsoft Corporation will begin shipping *Word for Windows*, what it calls "the word processor for the 1990s," this January. The full-featured word processor is designed to work in the mouse-driven Microsoft *Windows* graphical environment, replete with pull-down menus and the point-and-click operating method pioneered on the Macintosh. *Word for Windows* is basically a hybrid of *Word* for the PC and *Word* for the Macintosh (see "The Latest Words" in this issue), but it's potentially stronger than either.

A graphical user interface makes producing any document faster and easier. You see on-screen exactly how a printed document will look—complete with multiple fonts, footnotes, graphics, and multicolumn text. You can reposition margins, headings, and graphics simply by dragging with the mouse, rather than using menus and commands.

Microsoft *Word for Windows* makes document creation even easier by including templates for letters, memos, brochures, invoices, reports, proposals, and more. Rather than facing a blank page and then having to format and style, you are given an outline, a format, and type styles for a given document. Especially in a one-person office, where you might have to generate several different documents in one day, these templates will save untold time and headaches.

Bill Gates, chairman of Microsoft, who was personally involved in the four-year development of the product, said that *Word for Windows* (nicknamed *WinWord*) is one of the



Word for Windows makes it easy to create compound documents, incorporating tables, charts, and graphics from different sources.

most important products in the company's history. "Word for Windows will drive the shift from character-based to graphics-based computing in the PC arena," Gates said at its introduction in Boston last fall. "The program is deep." For the last two years of development, 2,000 business users have been testing the program, and Microsoft has been implementing many of their suggested refinements. After his talk, we asked Gates how *WinWord* compared with *Word* for the Macintosh. "WinWord is a superset; it has more features," he said. "But in operation they're virtually identical."

But Gates sees "the word processor of the 1990s" as the nucleus of office automation. Its links to other applications will integrate text, graphics, tables, spreadsheet data, and scanned images in documents that can be

printed, faxed, or sent via e-mail.

Besides its mouse-driven operation, what really separates *WinWord* from other PC word processors is that you can move objects, such as tables or graphics, from one spot to another and the rest of the document will change accordingly. For instance, you could take a pie chart created in *Excel*, move it into a *WinWord* document, drag the chart onto the page, and watch the text settle around it.

And, because *WinWord* has live links to other software operating under *Windows*, you could change numbers in *Excel* and within seconds the pie chart in *WinWord* would change to reflect the new values.

Microsoft *Word for Windows* costs \$495. For the first 90 days it's available, current *Word* owners can upgrade for \$150. *Word for Windows* requires a 286- or 386-based computer with 640K, *Windows* 2.11 or higher, and *DOS* 3.0 or higher. However, you don't need a separate version of *Windows* to run the program, as it includes a "run-time" version. You can accomplish almost everything with keystrokes, but a mouse is highly recommended. Though we haven't yet tested the program, we think it will be sluggish on a computer running slower than 12 MHz.

Word for Windows, as you might imagine, is the precursor to *Word for Presentation Manager*. Look for an update on that program in next month's report on the Comdex trade show and a full hands-on review of *Word for Windows* in a future issue.

—NICK SULLIVAN

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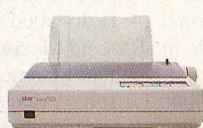
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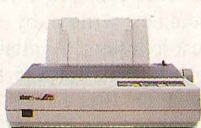
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CIRCLE READER SERVICE 55

Network with Other Home-Office Computing Readers

Would you like the opportunity to share information, cultivate business contacts, and interact with the hundreds of thousands of other home-based business people who read HOME-OFFICE COMPUTING each month? Now you can. Starting with the April 1990 issue, HOME-OFFICE COMPUTING will feature "The Network," a new service for readers.

Announce employment opportunities and situations desired, request and offer technical and business advice, and promote home-office interaction (see sample messages) in this monthly section. This is not a place to advertise your product or service—that's the purpose of our already existing classified advertising section. The Network is a unique, effective way to tap into a pool of savvy home-office professionals.

Getting your message into The Network is easy: Request a submission form from Eva Grodberg at (212) 505-3606, then send your message and payment to HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003, Attention: The Network; or fax it in at (212) 477-0071. If you have a Visa or MasterCard, you can pay for your message over the phone. There is a three-line minimum for each message, and the rates are as follows:

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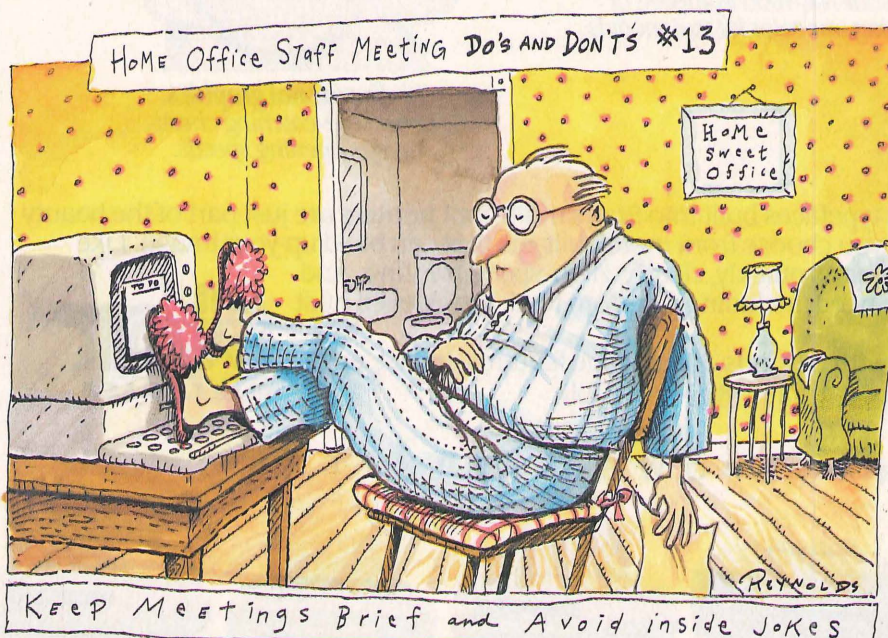
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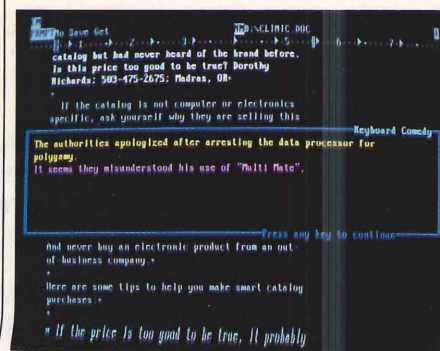
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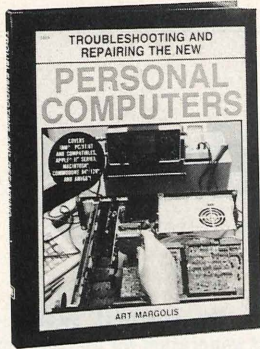
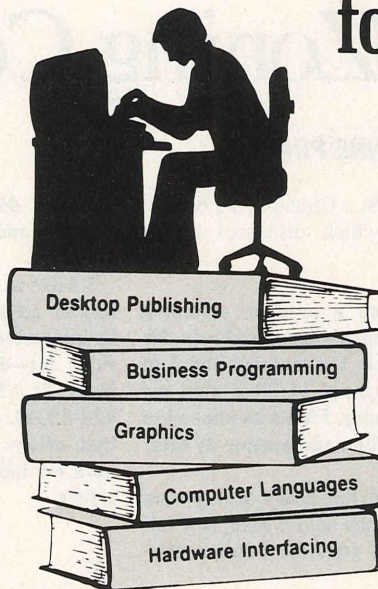
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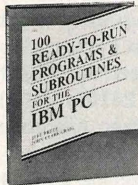
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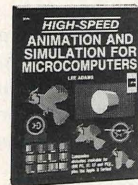
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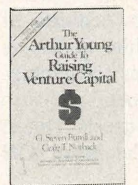
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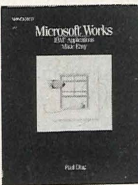
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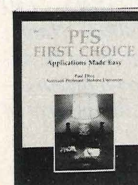
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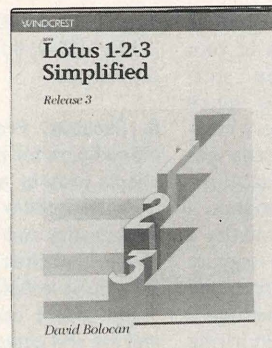
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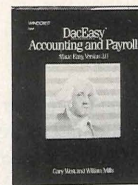
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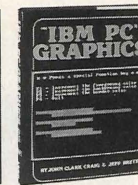
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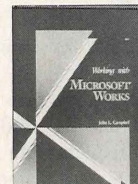
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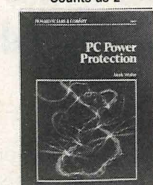
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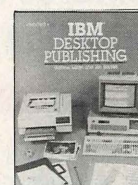
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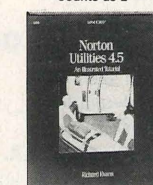
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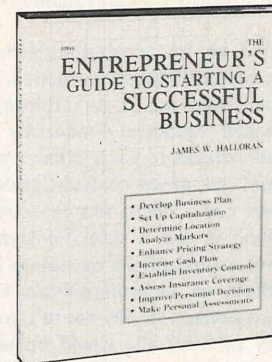
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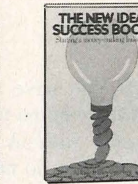
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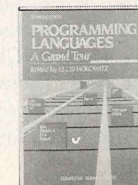
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Deciphering Zoning Codes

BY JOANNE PRATT



Have you discovered the hidden treasures in your word-processing software? With so much competition, every manufacturer's upgrade has a few more special functions. In the program I

use, for example, I recently came across a symbol library and the ability to capture graphic images displayed on the screen and insert them into text. It's not a powerhouse program, but it's quite useful for preparing illustrated text—laying out business cards or overhead transparencies, for instance.

Or suppose you want a simple database to record and sort information about your customers: Your current software's mail-merge or outlining features may have all the power you need. So before you buy new software for a specific task, make sure the programs you now own can't handle it.

Q. I am an accountant with a home-based, computer-intensive practice. Around the corner from me is an attorney with a home-based business. Frequently we recommend our clients to each other and sometimes we just talk about common problems. The attorney has a client who is being denied a variance to run a stencil-designing business in her basement. An exception in the ordinance allows us, as professionals, to set up shop in our homes, so why doesn't her business qualify as well? We would be interested in any authoritative literature or model planning and zoning legislation concerning home offices.

GENE LILLIE, JR.
Magnolia, New Jersey

A. You have raised a serious policy issue. Many home-based businesses operate illegally without problems because most communities do not enforce their home-occupation zoning codes. But that practice leaves the business vulnerable to immediate closure or fines if a neighbor suddenly gets angry enough at a business owner's barking dog, for example, to complain to city officials. Not enough communities have modernized their codes. For a detailed analysis of the implications of zoning restrictions on home offices, you can refer to *Legal Barriers to Home-Based Work* (Study No. 129), which I wrote for the National Center for Policy Analysis (\$10; NCPA, 7701 N. Stemmons, Suite 800, Dallas, TX 75247; [214] 951-0306) and *Home Occupation Ordinances* (\$16; American Planning Associa-

tion, 1313 E. 60th St., Chicago, IL 60637; [312] 955-9100), which discusses model ordinances.

Q. Recently, I've had a problem enforcing office hours for my home-based business. My clients drop by at 8 in the morning and 7 in the evening; they call me at 11:30 at night and on Saturday and Sunday. I have mentioned to clients that their calling and coming by after 10 p.m. is irritating.

How can I control the hours that people call me and come by my home? Also, is it fair to charge double the price for 24-hour turnaround?

LIANNA S. M. WRIGHT
Chicago, Illinois

Many home-based businesses operate illegally without problems because most communities do not enforce their home-occupation zoning codes.

A. Loosely defining your business hours is leaving you vulnerable to your clients' unbusinesslike habits. Defend your privacy by setting firm business hours. Post the hours on a small card by your door bell if it's permitted under your community's zoning laws. State your hours on your answering-machine message and let your machine answer the telephone when your office is closed. If the call is personal, you can pick up the phone.

Yes, you should charge higher rates for rapid turnaround—that's accepted practice. Be aware that when you make those changes, you will have to modify the behavior of your present clients. And your new policy will only succeed if you consistently adhere to the guidelines you have set.

Q. I have looked into several graphics packages to use in my video production company, but the picture quality has been far less than adequate for the marketing and corporate-image videos that I produce for clients. What

package delivers the sharpest quality in graphics and text generation for an IBM compatible?

I'd like to add that Earl Lopes, the plumber turned artist (*September ShopTalk*), might be interested in a company that I produced a video for—*Personal Touch Portraits* (1301 Avery St., Parkersburg, WV 26101; [304] 428-4031). It is a franchise-type operation that offers instruction and critiques artwork for those who want to become portrait artists.

DALE E. ADAMS
Bridgeport, West Virginia

A. Graphics software will not change the resolution of your video output. According to Viqui Litman of Professional Presentation Products (Infomart, Suite 5001, 1950 Stemmons Freeway, Dallas TX 75207; [214] 746-4300), what you need is either a VGA card, such as VGA-TV from Willow Peripherals (\$699; 190 Willow Ave., Bronx, NY 10454; [212] 402-0010), that directs output to a VCR or television, or a product like VideoShow 160, from General Parametrics (\$4,595; 1250 Ninth St., Berkeley, CA 94710; [415] 524-3950), which plugs into a VCR or any color display system that produces high-quality color images, and remaps the image for higher resolution.

Thank you for your suggestion to Mr. Lopes. Unfortunately, *Personal Touch Portraits'* artists are sent out on jobs, and therefore must be mobile. Lopes's determination, however, has interested several readers. Glenda Tennant Neff, editor of *Writer's Market*, suggests that the new edition of *Artist's Market* might direct him to buyers of his work. Annual directories for photographers, songwriters, and poets are also available (\$19–\$24 each. *Writer's Digest Books* (1507 Dana Ave., Cincinnati OH 45207; [513] 531-2222).

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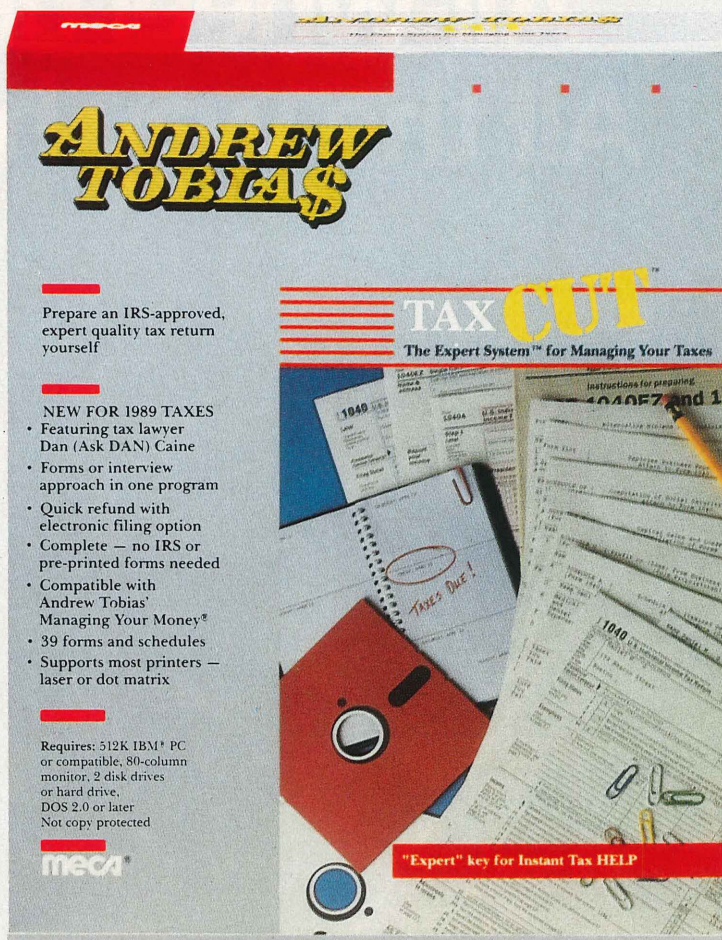
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Curing Printer and Software Woes

BY STEVEN C. M. CHEN

PRINTER PROBLEM

Q. I'm having trouble printing out my files on my NEC P2200 printer. Every time I try to print, I get the message "Printer Not Connected." Can you help?

BRUCE A. BOLTON
Dayton, Ohio

A. There are some simple troubleshooting procedures you should follow to investigate printer problems. First, check the basics: Are the power and select lights on? Is the printer plugged in? Is there a paper jam? Are you out of paper or ribbon? You'd be surprised at the number of printer problems that are really easy fixes.

Next, is the printer cable connected properly? A printer can be configured to run from the serial or the parallel port of your computer. Make sure that the cable is connected to the corresponding port for your printer's configuration. Consult the printer's manual to learn more about configuring your printer.

Check the cable itself next. The connectors should fit easily into the ports on the computer and the printer; you shouldn't have to force them in. The connector's and port's pins and holes should be clean.

Another easy way to troubleshoot printer problems is to run a self-test. Again, turn to your manual to learn this procedure.

The final check is the software. During the installation of your software, you should have been prompted to supply printer-configuration information. Try reinstalling the software and double-check that the settings you install match your printer's configura-

tion. Your printer manual should list various other printers it can emulate, if your software doesn't have a driver for the P2200 specifically. Most programs, however, provide some kind of generic printer driver that will work with most printers.

SOFTWARE QUERY

Q. I have Q&A and NewsMaster II installed on the hard-disk drives of my two computers: They work fine on my IBM compatible but not on my true-blue IBM PC. I get error messages, such as "run-time error R6003," that indicate that the problem is not a bad disk sector. What could be wrong?

VINCENT CASTORIA
Brooklyn, New York

A. It's difficult to diagnose your problem. If you installed the software from the original program disks or from legal working copies of the program disks and carefully followed the installation procedures in the software manuals, then there should be no problem.

The best thing to do is reinstall the software and confirm that the hardware settings you are prompted to define match each of your systems. Do not assume that your clone and your IBM will have the same settings.

Also, if you have installed any memory-resident programs, such as desk organizers or software "memo pads," try disabling them, rebooting your system, and then seeing if Q&A or NewsMaster II runs. There may be system conflicts between memory-resident programs and the software you want to run.

You may also want to try this little test: Make backup copies of your system's current AUTOEXEC.BAT and CONFIG.SYS files. Then delete them from your hard-disk drive, install the software once more, and reboot. During installation, the programs may create new AUTOEXEC.BAT and CONFIG.SYS files with statements specific to those two programs. There may have been commands in your old, backed-up AUTOEXEC.BAT and CONFIG.SYS files that conflicted with the Q&A and NewsMaster II statements. If that test turns out to be a wash, you can easily copy your backup files back onto your hard-disk drive. ■

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Fonts to Polish the Printed Word

Capture Television Images on Your Mac Screen

A Look at Two Apple II Hard-Disk Drives

IBM / M S - D O S

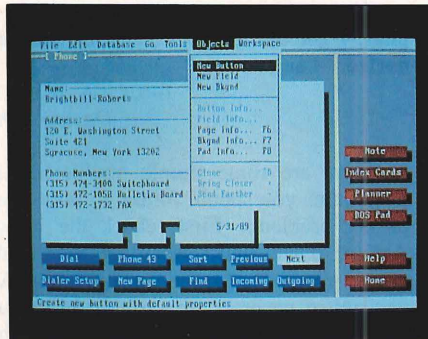
BY HENRY F. BEECHHOLD &
STEVE MORGENSTERN

Spruce up your correspondence. If it's fonts you want, take a look at *FontGen V* (VS Software; \$295), a font designer with an interface similar to those of many popular paint programs. The program lets you display characters in up to nine fonts simultaneously and edit each character individually. Any bit-mapped font—that is, any ordinary soft (downloadable) font—can be used. And with the entire character set displayed, you can make sure that your character changes are consistent throughout the set.

Perhaps you'd like to boldface or italicize a font or smooth out the ragged appearance of certain large-scale fonts. You can create any type style, character set, point size, or graphic symbol you desire for any printing task. You can even create matching screen fonts for *Ventura Publisher* and Microsoft *Windows* applications (including *PageMaker*) so that the characters you see on-screen look like the characters your printer will produce. You'll need at least a 640K computer with DOS 2.0 or higher, a laser printer with HP LaserJet emulation, and about 3MB free on your hard-disk drive. *FontGen V* will also accept scanned fonts (in IMG, PCX, and TIF formats), which you can load and edit.

This program works as a WYSIWYG drawing program, but all of its capabilities are aimed at designing fonts pixel by pixel. If you're usually in a hurry, however, *FontGen V* may not be your best bet. Instead, take a look at the *Glyphix* system.

Scalable font generator: fast and inexpensive. I've been singing the praises of the *Glyphix* font generator ever since the first version appeared a couple of years ago. The current version, *Glyphix 3.0* (SWFTE International; \$100 per font set; installation kits for Microsoft *Word 5.0* and *WordPerfect 5.0*; \$80 each), is basically the same system but it has a number of refinements. To gen-



HyperPAD lets you create electronic documents to use in product demonstrations or sales presentations.

erate a font, you start with a basic design and, using point-and-shoot menus, select the characteristics you want. The program is not WYSIWYG, but, unlike *FontGen V*, it does most of the work for you. This can speed up the process of designing fonts, although it allows you less control over individual characters.

I need normal, bold, and italic fonts in several sizes of a given typeface. I specify these choices by menu selection, and *Glyphix* automatically generates the entire collection. If I want to see what a font looks like, *Glyphix* will print the font along with a listing of its characteristics, including typeface name, point-size range, font type (serif or sans serif, for example), character set (such as foreign characters or symbols), and special effects (outline, reversed text, shading, and so on). You can enter a line of your own text for a test print.

It takes only seconds to generate a font, and the quality is excellent. These fonts are

virtually indistinguishable from those produced by a PostScript system. The program requires a 512K computer, an HP LaserJet Plus or LaserJet II compatible printer, and DOS 3.0 or higher. —H.B.

Getting down and getting hyper. I've been looking at some of the new Hypertext software lately and thinking about its business possibilities. Being able to link text with graphics adds a whole new dimension to the electronic document. For example, imagine creating an electronic press kit to introduce a product line. You could design your press kit so that users could point to any object in the line that looked interesting and click with a mouse or press Enter. Instantly, they'd get more detailed information about the product. You could even have a title screen where a user could click on the name of the company to get background information—pretty good stuff.

A Hypertext system is also ideal for giving presentations before an audience or delivering a self-running presentation on a disk to potential clients.

Hypertext packages with pizzazz. If you're intrigued and want to give Hypertext a try, then check out *Guide2* and *HyperPAD*. Owl International's *Guide2* (\$295) is a *Windows*-based Hypertext system that requires at least an 80286-based computer. Its essential mechanism consists of four kinds of on-screen buttons. When you click on an Expansion Button, more text, graphics, or buttons appear on-screen. A Reference Button takes you to related information in another part of your document or to another on-line document. Select a Note Button and a pop-up window appears on-screen with additional text or graphics. The Command buttons link you to any information outside of your Hypertext document.

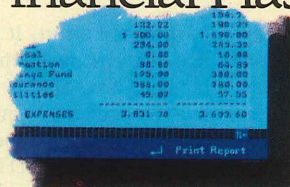
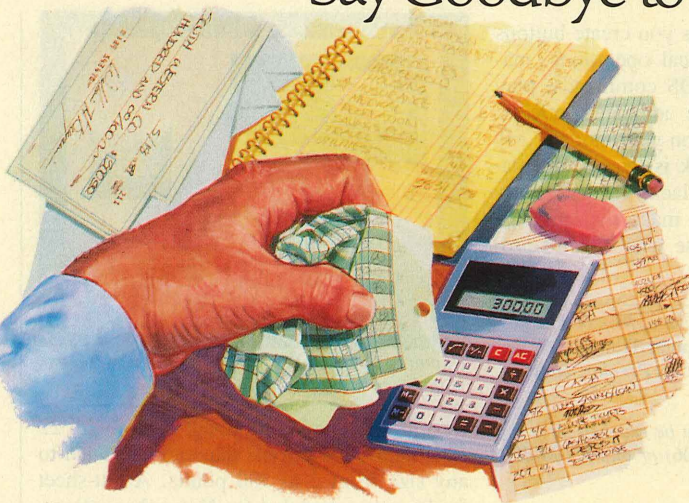
Creating a Hypertext document with *Guide* is fairly simple, and the instructional materials provided include a good manual and an extensive tutorial (written as a Hypertext document, of course). A few hours after opening the box, I had already created an interesting test document for my five-year-old daughter. I used a desktop scanner

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to enter a few illustrations into the system, then created a *Guide* document that linked these images to their names on-screen. When she clicks on the name with a mouse, the illustration appears. If I were selling machinery instead of reading, I could simply substitute cogs and gears for horses and ducks and have an instant, interesting product catalog.

HyperPAD (\$150) is Brightbill-Roberts & Company's unabashed attempt at translating the Macintosh program *HyperCard* to the MS-DOS world. Whereas *HyperCard* is based on stacks of on-screen cards (each card with graphics, if desired), a set of fields containing information, and buttons for performing actions, *HyperPAD* calls each screen a page (analogous to a card in *HyperCard*), which can also contain text fields and buttons. Each collection of screens is a pad (*HyperCard*'s stack). You can move from page to page or use a button to jump to another pad. There are also extensive search capabilities for locating information anywhere in a pad. *HyperPAD*, unfortunately, does not integrate graphics.

Like *HyperCard*, *HyperPAD* offers more than a system for creating links—it also has a powerful programming language. The language, *PADTalk*, offers a lot of programming capability for a very small investment

of time and effort. It lets you create buttons that perform mathematical operations, manipulate text, access DOS commands, play music, produce simple animated effects, and even dial a number on your modem. My only beef with PADTalk is the documentation—the user's guide lacks the necessary details and examples to make the language easily accessible to those who haven't programmed before.

—S.M.

—S.M.

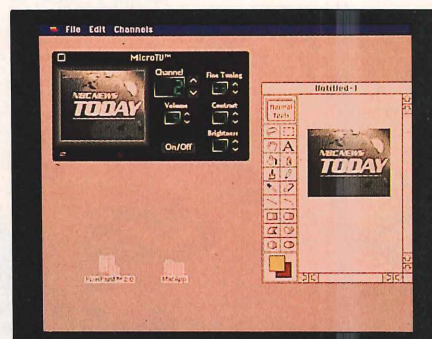
HENRY F. BEECHHOLD *is the author of The Brady Guide to Microcomputer Troubleshooting & Maintenance (Brady Books, Prentice Hall Press, New York).*

STEVE MORGENSTERN can be reached on CompuServe (ID: 72545,606) or on MCI Mail (SMORGENSTERN).

MACINTOSH

BY JIRI WEISS, JR.

Better dot-matrix output. GCC Technologies has a 24-pin dot-matrix printer that offers twice the resolution of an ImageWriter II, yet costs only \$100 more. The \$699 Write-Impact printer yields 180 by 360 dots per inch (dpi)—laser-printer quality. The ImageWriter II has only nine pins, which print at 144 dpi by 144 dpi in the printer's



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Best mode. The WriteImpact comes with 22 Bitstream outline fonts that can be scaled to any size from 2 to 500 points. A cut-sheet feeder was scheduled for November release.

Solve the envelope-printing problem. Printing envelopes is one of the biggest little frustrations of the computer age. I still resort to the typewriter. Kiwi Software, however, has the solution—*KiwiEnvelopes! 3*. The \$50 desk accessory uses the Mac's standard Copy command to copy the address from a letter you have written and prints it in the right place on an envelope with one mouse click. *KiwiEnvelopes! 3* will automatically print a return address, a logo, and a one-line message, as well. If you are using

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the program with a laser printer, it can also print the bar codes the U. S. Postal Service uses to sort letters.

MacTelevision. As if you didn't have enough televisions in your house already, a small start-up company is determined to bring one to your Macintosh screen. Now you can capture television images to be stored and used in presentations, reports, or instructional materials for training purposes. All you have to do is plug Aapps Corporation's board into your Mac (II and up); attach a gray-scale monitor, rabbit ears, and a VCR; and launch the MicroTV application. The television image will appear in a small box on your screen. You click to flip the channel, add contrast, or adjust the volume. With a keystroke you can capture any screen image onto your disk. You can also watch a television program or videos on your computer screen.

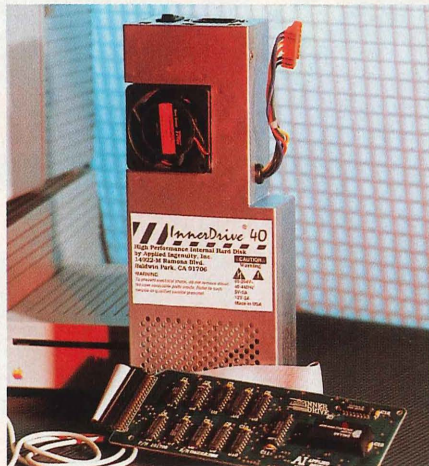
The \$395 MicroTV package should be available by the time this issue of HOME-OFFICE COMPUTING hits the newsstands. It displays a 1.75-by-1.3-inch picture in 128 shades of gray. You'll need a color monitor or a monitor with 256 shades of gray.

JIRI WEISS, JR., is a freelance writer based in Berkeley, California, and can be reached on MCI Mail (JWEISS).

APPLE II

BY CHARLES H. GAJEWAY

Two hot hard-disk drives for the 1990s. To kick off the new year, here's a hands-on look at two hot, new internal hard-disk drives that will help you get the most out of your trusty Apple. (A hard-disk drive will speed up your work significantly by decreasing the time it takes to access your data



The InnerDrive offers speed and storage to both ProDOS and GS/OS users.

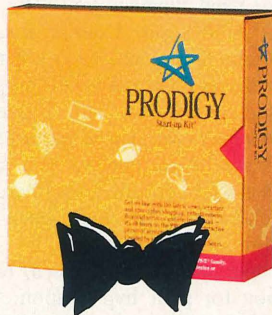
and eliminating the need to constantly swap floppies.) Applied Ingenuity's InnerDrive (\$650 for 20MB, \$850 for 40MB) and Applied Engineering's Vulcan (\$649 for 20MB, \$849 for 40MB, or \$1,795 for 100MB), are two of the hottest.

The units perform similarly. The primary difference is the balance between price and flexibility.

The InnerDrive is a high-value product for ProDOS and GS/OS users. It is a sturdy, basic unit that gives you speed and space, but little else. (It is shipped with about 5MB of shareware and public-domain software, about a third of which won't run under GS/OS 5.0.) The Vulcan costs about the same, but seems more sturdy. The Vulcan also runs the older version of the Apple operating system, DOS 3.3, as well as the antiquated CP/M and Pascal operating systems.

I lean toward the Vulcan, both for its extra flexibility and for Applied Engineering's firmly established presence as a manufacturer of quality Apple peripherals. But if you only use ProDOS or GS/OS and you want to add storage, the InnerDrive may be just the drive for you. ■

CHARLES H. GAJEWAY can be reached on CompuServe (ID: 73357,3577) or on GEnie (ID: C GAJEWAY).



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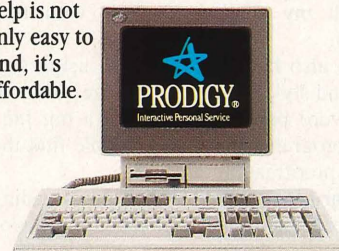
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Timesaving Tips for Making Text Look Professionally Typeset

BY STEVE MORGENSTERN



You could write the text of your publications directly in your desktop-publishing (DTP) software, but it wouldn't be efficient. The text-editing functions provided in page-layout programs, are fine for fixing typos and adding an occasional headline or caption but too slow and cumbersome for substantial writing tasks. Preparing text with a word processor and importing it into your DTP software is standard procedure.

So you write the story, save the file, boot up your DTP program, and place the text, right? Not so fast! If you linger in your word processor for a few extra minutes, you can save hours of labor. Word processors move through text faster than DTP programs, offer invaluable search-and-replace functions, and print out quickly for proofreading. Here are several suggestions for using a word processor's strengths to streamline the publishing process.

TOP WAYS TO CATCH TYPOS

Don't wait to proofread your text until it is set in type in your page-layout program. You'll save time and aggravation—and do a better job besides—if you read (and reread) the text carefully while word processing.

Spelling and style checkers. A word processor's spelling checker is your first line of defense against typos. While nearly every leading word processor today offers a spelling checker, only a handful of DTP programs currently include this useful feature.

Don't rely exclusively on spelling checkers, though; they're not that smart. If a series of letters spells a word, then the spelling checker will accept it as correct—even if those letters don't represent the word you wanted ("the ward you wonted" passed through my spelling checker with flying colors).

You also have the option of using grammar- and style-checking software along with your word processor. I'm not a big fan of these programs, but many people find them useful proofreading aids.

Paper proofreading. When proofreading a word-processing file, I do a better job work-



ing with a printout, rather than reading directly from the screen. I also suggest proofreading text printed in plain old typewriter-style Courier type with double-spaced lines, no matter what typeface you'll be using in the final publication. Courier is a monospaced font—that means each letter has the same width, as contrasted with proportional fonts, such as Times and Helvetica, in which characters are spaced according to the width of the actual letters. You are more likely to miss errors involving hard-to-read skinny letters such as *i* and *l* when they are set in a proportional font.

Of course, you'll still have to read your publication for poor hyphenation, bad column breaks, and so on once it's laid out with your DTP software. But at least you'll know the text arrived in good condition.

DETAILS MAKE TEXT LOOK TYPOGRAPHIC

There are several typographic differences between typewritten and typeset text. You can make these changes in your page-layout program, but it's more efficient to handle them with your word processor.

Single-spaced sentences. Most of us learned to hit the space bar twice at the end of a sentence. That's fine for typewritten text, but wrong for typesetting, where the extra space can leave unsightly gaps, especially in justified text. You can try reminding yourself to single-space as you type, but it's much simpler to use a word processor's search-and-replace function to search for all double spaces and replace them with single spaces.

Spaces between paragraphs. Adding an extra space between paragraphs by pressing Return twice is another common typing practice. Even if you want space between paragraphs in your final publication, insert it using the page-layout program's line-spacing controls instead. You'll get finer spacing control and won't find unwanted blank lines at the tops or bottoms of columns when paragraph endings coincide with column breaks. Check your word processor's manual to learn how to search and replace Return characters (this varies from program to program), then replace double Returns with singles.

Typographic quotes, apostrophes, and dashes. The quotation mark and apostrophe characters on your keyboard are holdovers from typewriter days—typewriters offer neither properly shaped single and double open and close quotation marks nor an apostrophe (which is the same character as the single close quote). Your desktop-published documents can use the typographically correct punctuation that comes in most printer fonts.

Similarly, we often type two hyphens to represent a dash in typewritten text instead of using a typeset dash (called an *em dash* because it's the same width as the letter *m*). Should you include a space before and after a dash? I prefer the spaces, but you see it both ways (this magazine doesn't include them). What's important is being consistent, and your word processor's search capabilities will help ensure this. On typewriters, you also use a hyphen to indicate a numerical range, for instance, 2–4 inches. The

STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.

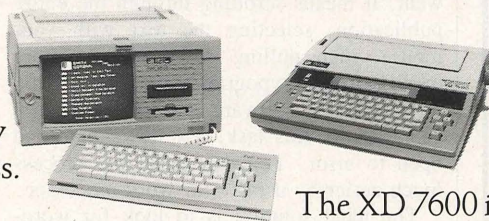
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typographically correct character is an *en dash*.

The Mac method. Macintosh users will find it easy to substitute typographically correct characters for their typewriter equivalents, since the characters are readily available from the keyboard using standardized Option and Shift key combinations. Check your word processor's manual, or use Apple's *Key Caps* desk accessory, to find the proper key combinations. You can type the characters correctly as you write or search and replace later. Note that to transform quotation marks correctly, you'll have to include the space before or after the mark in your search.

The MS-DOS solution. These substitutions are trickier on MS-DOS computers, since the required keystrokes are not standardized. However, many word processors support the typographically correct characters, with the appropriate keystrokes listed in the reference manual. If your word processor won't allow this, you may be able to accomplish the same goal by inserting codes in your word-processing file that your page-layout program recognizes. For instance, if you type <197> in your text file, *Ventura Publisher* automatically replaces the bracketed expression with an em dash when it imports the file. Check your DTP software's manual for character substitution codes.

A few MS-DOS page-layout programs will handle some or all of these typographical conversions for you automatically. For example, *Ventura Publisher* can automatically convert double hyphens to em dashes, insert correct opening and closing quotation marks, and strip out extra Return characters between paragraphs. However, this feature is the exception rather than the rule.

MAKE FORMATTING CONSISTENT

One of the most time-consuming chores in preparing page layouts is selecting text blocks to indicate the font and spacing you want. It means scrolling through the entire publication, selecting the text with your mouse, then pulling down one or more menus to make typographical choices. Even if your DTP software supports keyboard shortcuts for this task, it's slow going and open to error. You can make the process much easier by using your word processor.

The ideal solution is to look for word-processing/page-layout software combinations that are highly compatible. Any page-layout program will accept plain, unformatted ASCII text files, but most will also import text files from selected word processors with some or all of their formatting, such as boldfaced and italicized type, intact.

Style sheets. Several high-performance word processors and DTP applications use style sheets—named combinations of for-

matting choices including typeface and type size. One reason that Microsoft *Word* and *PageMaker* make an especially appealing desktop-publishing combination is that their style sheets are totally compatible. A *Word* file complete with style sheet can be imported into *PageMaker* fully formatted, and the styles you created in *Word* can then be edited in *PageMaker* if changes are necessary.

Simple codes. Even without automation, you can often insert codes into your word-processing file to apply styles automatically when a document is imported. If you define a style called Subhead in a *PageMaker* document, for example, you can enter <Subhead> (including the brackets) in any word-processed text file, and the words following the code will automatically assume the Subhead specifications when you import the file.

Precoding is not limited to high-end programs either. *PFS: First Publisher*, for instance, does not support style sheets, but it does let you insert font specifications in your text files with the *FONT* command. For example, if you insert the phrase *FONT Geneva 14 bold* in your text file, the text that follows will be set in Geneva 14 point bold until the next *FONT* command appears.

At first glance it may appear that typing coding instructions in your word-processing file is about as much trouble as styling the text on-screen in your DTP program. But if your word processor is one of the many that supports macros, you can define simple keystroke combinations that will insert the entire coding phrase quickly and with perfect consistency. Even without macros, you can use search and replace to achieve the same end. In the *First Publisher* example, you might type GN before each Geneva 14-point bold text block, then quickly change all GNs to the full coding string using search and replace.

TAKE TIME NOW TO SAVE TIME LATER

Traditional computer-based typography relies exclusively on codes embedded in a text file to style a page. While these programs offer excellent typographic control, desktop-publishing software that displays a page accurately on-screen is much simpler to use and provides better feedback. However, by taking a little time to adopt a few simple practices, the page that appears on your screen when you import text to your DTP program will be much closer to the final version than if you import plain text files. Since each program has its own conventions, this requires a little hunting in reference manuals. However, that one-time investment in learning the shortcuts will pay off in consistent and considerable timesavings on every publishing project you undertake. ■

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CIRCLE READER SERVICE 58

Does a Spreadsheet Have to Be 1-2-3 to Be Good?

BY HENRY F. BEECHHOLD

Comparing SuperCalc5 And Twin Level III

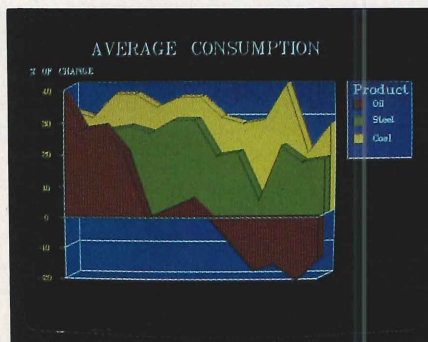
Over the years, Lotus 1-2-3's rivals for the spreadsheet market have split into two groups: programs that model themselves after 1-2-3 (the so-called clones) and programs that approach spreadsheeting with a unique style. *Twin Level III* and *SuperCalc5* represent both possibilities. *Twin* originated as a 1-2-3 clone (hence its name), but *SuperCalc*, whose initial version actually predates 1-2-3's, has always competed by going its own way.

Still, no matter how a spreadsheet competes with 1-2-3, most of today's software shares at least one common obeisance to the Lotus standard—1-2-3 file compatibility. Beyond that compatibility, which lets you work with existing data, both *SuperCalc5* and *Twin Level III* include supporting systems of extra features—large enough, in fact, to provide virtually an entire accounting office under one software roof.

LARGE SPREADSHEETS FOR GROWING BUSINESSES

SuperCalc and *Twin* can address expanded memory (both LIM/EMS 3.2 and 4.0), with *Twin* "limited" to 8MB spreadsheets and *SuperCalc* able to create sheets 32MB large. An 8MB spreadsheet is huge; a 32MB spreadsheet seems almost unimaginable. Still, I like to know that the capability of creating such monsters is there because you can't always predict, at a given moment in the life of a business, how your spreadsheet-centered activities are likely to flourish. And since a major attraction of these programs is memory gobbling three-dimensional, or linked, spreadsheets, the more memory available, the better.

To grasp the 3-D spreadsheet concept, think of a stack of ordinary column-by-row (two-dimensional) spreadsheets in which certain cells in each spreadsheet are vertically linked. There'll be data or a formula in one cell that is drawn from a cell in another spreadsheet. Thus, you might link data developed for individual client accounts—job estimates, for example—to a master account



SuperCalc5

VERSION REVIEWED: 5.0

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; hard-disk drive; CGA, EGA, VGA, Hercules, MDA; DOS 3.0 or higher; 5.25- and 3.5-inch

PUBLISHER: Computer Associates International, 1240 McKay Dr., San Jose, CA 95131; (408) 432-1727, (800) 531-5236

PRICE: \$495

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★ ★

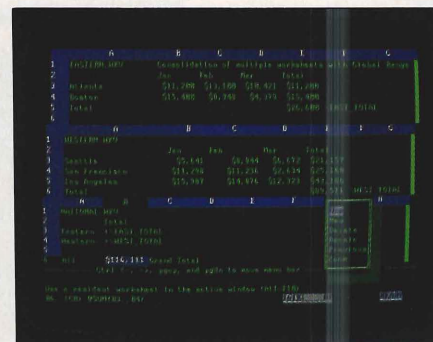
SUPPORT: ★ ★

spreadsheet and then track various items down through the stack.

Both programs let you view up to three spreadsheets at a time on-screen. The views are only partial, but each can be zoomed to a full-screen picture. I find this useful because when I deal with linked fields of numbers, I feel that I have more control if I can see the connections.

PROFESSIONAL-QUALITY FEATURES

In *SuperCalc5* and *Twin Level III*, the macro language and its use are similar, as one would expect given each program's compatibility with 1-2-3. In effect, a macro is a string of keystrokes designed to perform one or more tasks automatically when the macro is invoked. Any of the vast number of built-in commands and functions can be included in a macro. You may, for example, want to set up customized prompts or dialog boxes. This is especially helpful in creating a turnkey system, one which a part-time employee can quickly master. In such a



Twin Level III

VERSION REVIEWED: 3.01

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 2.0 or higher; 5.25- and 3.5-inch

PUBLISHER: Mosaic Marketing, Inc., 1972 Massachusetts Ave., Cambridge, MA 02140; (617) 491-2434, (800) 255-8662

PRICE: \$249

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★

SUPPORT: ★ ★ ★

case, your macro would be designed to prompt the employee through the everyday operations, precluding both panic and endless what-do-I-do-nows.

Debugging a spreadsheet can give you gray hairs. It's true that certain obvious foul-ups are caught automatically when the software evaluates an entry; but other potential problems, such as circular references and misreferenced formulas, are not as easily tracked down. *SuperCalc's* Audit Mode gives you a collection of tools specifically designed to catch the kinds of problems that will inevitably arise when you create large spreadsheets. These tools can save your sanity and your spreadsheet. Unfortunately, no such tools exist in *Twin*.

Twin provides no security beyond the usual spreadsheet protection, which prevents changes to the contents of designated cells. On the other hand, *SuperCalc's* PrivacyPlus, a stand-alone or memory-resident utility, encrypts data files and allows access to encrypted files only through a 3-

HENRY F. BEECHHOLD is a contributing editor for HOME-OFFICE COMPUTING.

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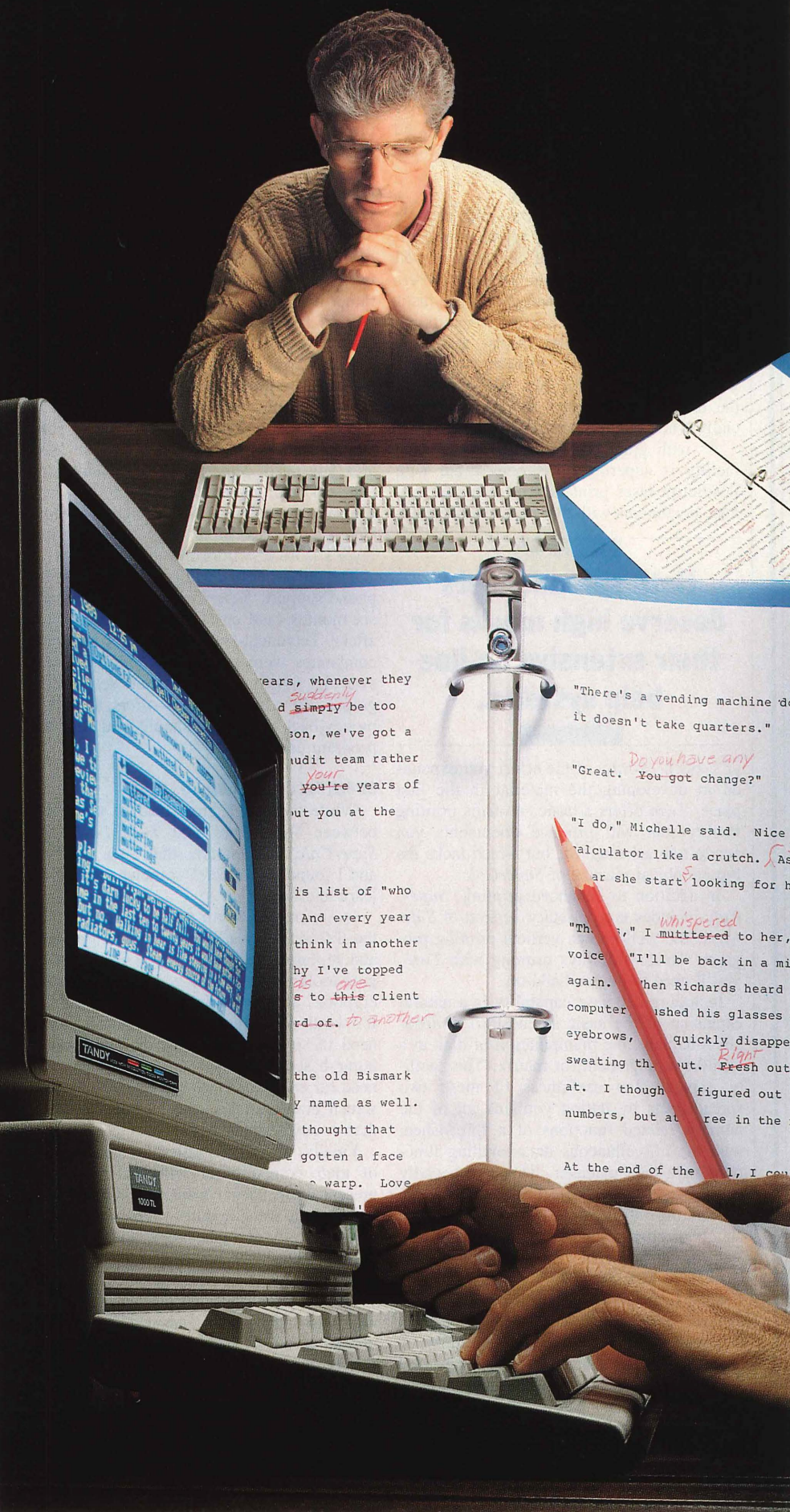
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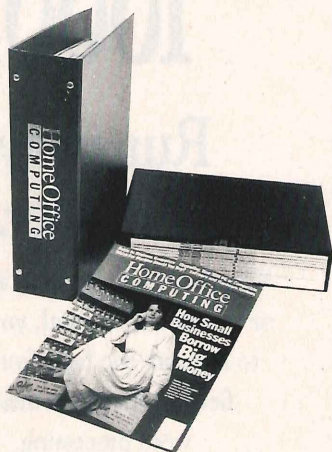
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SPREADSHEETS

to 32-character password. Of course, encryption and password entry have little value if only one person is using a computer. But in an office where several people may be using the same computer, or on any kind of network, I like to hide my files.

PULLING OUT INFORMATION

Business graphs and charts—such as a pie chart in which the wedges represent the annual billings to a group of clients—are well handled by these programs, although *SuperCalc* offers more types and greater sophistication in presentation, using overlapping bars, 3-D stacks, polar charts, and even logarithmic spirals. Anyone who has worked with financial data can appreciate the usefulness of charts and graphs, especially when making presentations.

As with graphics, *SuperCalc*'s reporting facility is superior. It is compatible with PostScript laser printers, and you can produce documents with that professional print-

SuperCalc's user's manual is not quite as graphically sophisticated as *Twin*'s, but I find it more readable and a lot easier to use because of its thorough index. *SuperCalc* provides separate manuals for installation, the data-encryption utility, quick reference, and basic reference. The latter manual, a huge tome, covers all of *SuperCalc*'s features in detail.

Keyboard overlays for both vertical and horizontal function-key layouts are provided by both programs; *SuperCalc*'s is plastic rather than coated paper.

Both spreadsheets deserve high marks for their extensive on-line help systems; you probably won't need to turn to the manuals for most routine activities. However, the approach each program takes differs. Calling for help in *Twin* puts you into a submenu from which you can select the help area you need. *SuperCalc*5 is broadly context sensitive, giving you a screen for whatever you're doing at that moment. *SuperCalc*'s help system is more efficient, but *Twin*'s is no less informative.

The publisher of *Twin* gives you free telephone support; *SuperCalc*'s is free for only six months (and costs \$195 per year thereafter). Technical-support people from both companies were patient and helpful in answering my questions about setting up graphs. In addition, *Twin* offers a 30-day money-back guarantee should you find the program unsuitable.

Both spreadsheets deserve high marks for their extensive on-line help systems.

er's touch, worthy of the effort you expended in developing the material in the first place. *Twin* offers a basic, no-frills printing facility that will produce documents you needn't be ashamed of, but which lacks the typographical pizzazz of *SuperCalc*.

In addition to enhanced printing, *SuperCalc* includes a proprietary version of *Sideways*, the well-known vertical printing program. To do sideways printing with *Twin*, you'll need to buy and add-on.

Including database capability is a natural extension of the basic spreadsheet philosophy—namely, the manipulation of data in a gridlike arrangement, or matrix. This facility expands the usefulness of these two spreadsheets by letting you link all of the numeric-related functions of a spreadsheet with the miscellaneous data-handling functions of a data manager. This is especially helpful when the spreadsheet and database are sharing information about the same accounts or clients.

LEARNING THE BASICS

SuperCalc's documentation surpasses that of *Twin*. While *Twin*'s main manual, written to accommodate the publisher's family of products—*Twin*, *Diamond*, and *Integrated 7*—is certainly acceptable and the quality of the graphics is good, the index is perfunctory.

SUPERCALC VS. TWIN VS. 1-2-3

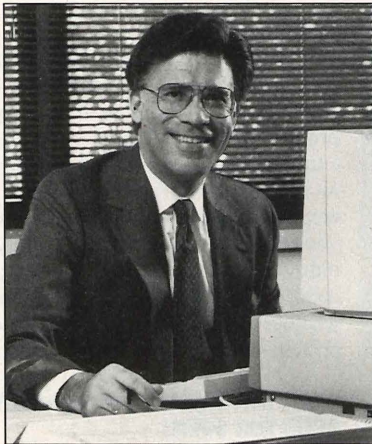
While there is a great deal of similarity between *SuperCalc*5 and *Twin Level III*, *SuperCalc*5 has features that *Twin* doesn't, and I found *SuperCalc*5 somewhat easier to learn and use.

Is *SuperCalc* worth twice the price? For the difference, you'll get superior graphics and reporting facilities, a powerful debugging toolkit, networking capability, data encryption, and better documentation. I'd say it's worth the difference—if you think you'll need these features. However, for a small home-based business—no networking, no need for encryption, no call for super-flashy screen graphics—*Twin* will surely be more than enough spreadsheet.

Finally, since both programs make much of their compatibility with 1-2-3, should present Lotus users consider switching? Unless there is some feature—*SuperCalc*'s Audit Mode, for instance—that you find irresistible, I can't see any reason to give up on 1-2-3.

On the other hand, should a spreadsheet newcomer buy either *SuperCalc*5 or *Twin* instead of 1-2-3? Why not? Lotus 1-2-3 files can be used directly in the less expensive *Twin* and the easier-to-use *SuperCalc*5, so you won't be left out in the cold if you have to use 1-2-3 files generated elsewhere. ■

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Cut the Time You Spend on Formal Bookkeeping

BY LISA KLEINHOLZ

There's Much to Like About the *Dome Simplified Bookkeeping System*—An Uncluttered Financial Tool

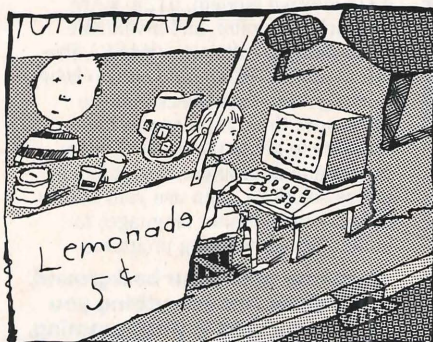
In a world where work seems to be getting more complicated every day, it's refreshing to find financial software geared to the ordinary small-business owner who is neither a tycoon nor an accounting wizard willing to spend weeks or even months getting a system running. All this said, the *Dome Simplified Bookkeeping System* is a small, simple program. It's not powerful or feature-rich, but it's easy to use while maintaining a real business feel.

In fact, *Dome* is so simple it won't write checks. It can't track more than one checking account either, and it doesn't handle accounts receivable or accounts payable. However, these functions are unnecessary for certain home-based businesses, particularly service businesses with few employees. What if you would find yourself writing several business checks a month by hand, even if you had computerized check-writing? You might find that keeping clear records, in a ledger format that your accountant will like, is more important to you than check-writing features. And unlike even the easier financial programs, such as *Quicken* and *Checkwrite Plus*, *Dome* allows you to track payroll for a small group of employees.

BASIC BOOKKEEPING 101

The *Dome* package originated years ago as a manual ledger system sold in stationery stores. In its best-selling, pencil-and-paper counterpart, *Dome* made formal single-entry bookkeeping easier by setting up categories of expenses and income for you on standard ledger paper and offering basic bookkeeping and tax instructions. The software version of *Dome* builds on that successful base by automating such tasks as allocating expenses to different categories.

The expenses screen is where you record each expenditure and allocate it to an account (a bookkeeper's term for type of ex-



Dome Simplified Bookkeeping System

VERSION REVIEWED: 2.0

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2; one drive (two drives optional); printer optional; DOS 2.0 or higher; 5.25- or 3.5-inch. Also for 64K Apple IIe/IIc

PUBLISHER: Great American Software, Inc., 615 Amherst St., Amherst, NH 03031; (603) 889-5400, (800) 528-5015

PRICE: \$60

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★ ★

SUPPORT: ★ ★

pense). A single check can be split among as many accounts as you like, because the program handles each allocation as a separate expenditure.

For example, a check to a local computer supply store that covers both equipment (a new printer) and office supplies (paper and printer ribbons) can be listed as two separate expenditures—one to the Equipment account, the other to Office Supplies.

The income screen works the same way—divvying the money you earn into various accounts—which makes *Dome* about as easy to use as any small-business finance program I've seen.

As with the manual version of *Dome*, the software comes with a list of accounts. If you are just starting out or are impatient with the tedium of bookkeeping, this ready-to-roll register of general business expenses and income can be a big help. Don't worry about being stuck with their list either, since adding, deleting, renaming, and updating accounts is elementary.

USEFUL REPORTS

I was impressed with the clarity, practicality, and simplicity of the *Dome* screens. I was equally taken with how easy it is to print the kinds of reports—such as income, expenses, and a profit-and-loss statement—most home-based business owners and self-employed people are likely to require. When you choose the type of report you want, you indicate its time period (current, year-to-date, or you specify the period) and decide whether you want to send the report to the printer, a disk file, or to the screen.

WHAT *DOME* WON'T DO (AND WHY THAT'S GOOD FOR SOME)

The main thing I don't like about *Dome* is that it doesn't sort entries by date on expense or income screens. For example, if you make an entry for January 24, and place it on the line below January 30, it stays that way. Reports, at least, have sorting options.

Some people won't be happy that *Dome* lacks a way to handle multiple checking accounts. Still, if you work with one business account, out of which most expenses are paid, and use a single-entry ledger system now (no complex double-entry debits and credits for you!), this software can make you very happy. It will do all your adding, subtracting, printing, and collating of information, including payroll deductions. If you need more, though, *Dome* won't do.

A reminder list of some of the things it won't do: write checks or track checking accounts, charge accounts, and investments. But, if you're shopping around for a clear, business-oriented package, also consider another thing *Dome* won't do: It won't take you a lot of time to set up and learn. It won't drain hours from your day while you enter and organize extraneous data.

IS *DOME* FOR YOU?

I like *Dome* because it does straight bookkeeping, which is what many small businesses require—rather than check writing (which doesn't provide a clear ledger format) or accounting (which is more complicated and requires a certain degree of expertise to understand and run). *Dome's* no-nonsense approach and clear organization, geared to saving a busy entrepreneur precious time, can be a real boon to those still hooked on pen-and-paper methods but fearful of complicated accounting programs that might be overkill. ■

LISA KLEINHOLZ wrote "Which Is the Best Financial Software for You?" in our October 1989 issue.

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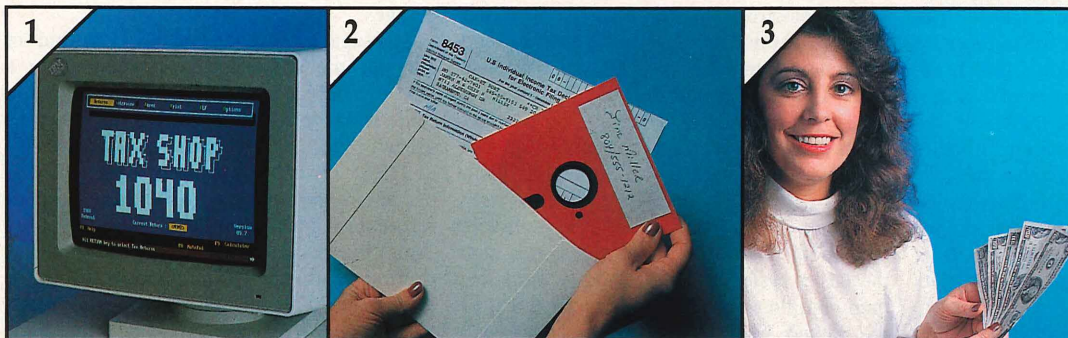
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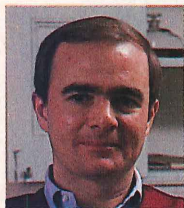


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How to Reach Just About Anyone, Anywhere, Anytime

BY ALFRED GLOSSBRENNER



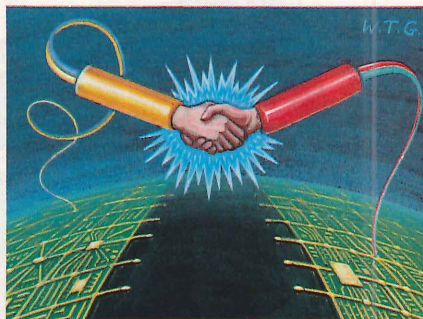
Electronic mail is without a doubt the fastest, cheapest, most convenient way to send computer information from point A to point B. It's much cleaner, more versatile, and faster than a telex machine and can be more convenient than a fax machine, particularly when the transmission is a text file that must be edited and revised. (You have to rekey a faxed document to revise it.) And it's faster than overnight mail services.

There's just one problem: If you're a Western Union EasyLink subscriber and I'm on MCI Mail, we can't communicate. The same is true with many other e-mail systems, whether public or corporate. With the notable exception of the link between CompuServe and MCI Mail (subscribers to either system can exchange mail with subscribers to the other), most electronic mail systems are not connected.

The significance of this will vary with the business you're in, but to many small-business people it represents a major inconvenience and potentially large expense. For example, I once did a project for a corporate client who used Western Union's EasyLink. The job involved several stages of writing, editing, and revisions, so e-mail was the preferred means of communication. I had to subscribe to EasyLink just to finish that job. The same difficulty would arise if I were on EasyLink and had a client on AT&T Mail or if I were on Dialcom with a client on Telemail's Telemail. In other words, you can't get there from here.

Unless, that is, you know about DASnet, a service of DA Systems. DASnet links more than 60 e-mail systems. Say you're on MCI Mail and you need to respond to a request from a potential customer in Leninograd or you need to request a price list from a supplier in Tokyo. Or maybe you're a Unison subscriber and want to get some material to a client on ABA/net, a system run by the American Bar Association. DASnet provides the link.

On the surface, at least, DASnet's operation is simple. DA Systems has an account



"I was spending close to \$300 a month in telex and fax transmissions. With DASnet, my bills are in the \$100 to \$150 range—and I'm sending a lot more mail."

and an electronic mailbox on each of the systems it connects. When you want to send a message from, say, MCI Mail to someone on BIX, you just send it to the DA Systems MCI Mail mailbox.

Throughout the day, computers at DA Systems headquarters in Campbell, California, periodically sign on to each system and pick up the mail. Proprietary software then looks at your message and routes it to the target system. The Campbell computers then sign on to each system again and send the routed mail to the correct addressee. Your message should be delivered within one to three hours—not immediately, but still quickly.

SEND E-MAIL, FAX, OR PAPER MESSAGES

Anna Lange, marketing manager of DA Systems, says, "With one connection to one system, you can communicate with almost anyone." To start with, DASnet puts you in touch with more than four million electronic-mail users.

In addition to U.S.-based systems like MCI Mail, EasyLink, BIX, Telemail, Dialcom, AT&T Mail, The WELL, INET, NWI, EIES, Unison, PsychNet, the UUCP (Unix) and Internet wide-area networks, and others, DASnet offers a plethora of overseas

connections. GeoMail connects to most countries in western Europe. APC (Association for Progressive Communications) connects to networks in Brazil, Sweden, Nicaragua, Australia, and Canada. The TWICS network offers connections to the United Kingdom and Japan. And through Dialcom, you can reach Hong Kong, Israel, Puerto Rico, Singapore, and many other countries around the globe.

Besides electronic transmissions, you can use DASnet to send and receive telex messages and send faxes or paper mail. (The company uses EasyLink for the first two and MCI for paper printout and delivery.) And you can send a graphics file, a spreadsheet file, or a word-processor-formatted document (all binary files) to any system.

PRICING

Many e-mail systems offer DASnet connections as part of their overall service, and more will be doing so in the future. If it is not offered with your system, however, you'll have to become a DASnet subscriber. The initial start-up fee is \$33.50. After that, the cost is \$4.75 per month, plus message charges.

Message prices vary by system, but in general, the additional cost for sending a DASnet message is about 45 cents for the first 1,000 characters (about one single-spaced page) and 20 cents for each additional 1,000. Overseas prices are higher. DASnet has saved hundreds of dollars a month for at least one home-based business user. John Greenwood is a software developer in California working on multiple projects for a company with offices in the Netherlands, France, Germany, and the United Kingdom. "Last year I was spending close to \$300 a month in telex and fax transmissions. This year, with DASnet, my bills are in the \$100 to \$150 range—and I'm sending a lot more mail. Plus, the output is clearer, easier to distribute, and easier for the recipient to revise."

If electronic mail never enters your business picture, DASnet is obviously not for you. But if you're finding that your business is becoming increasingly electronic, this service is definitely worth a look. ■

ALFRED GLOSSBRENNER is the author of *The Complete Handbook of Personal Computer Communications—Third Edition* (St. Martin's Press, 1990) and many other books.

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How to Write for Business

BY RONNIE GUNNERSON

Business-Writing Pro Offers Practical Advice On Putting Words to Work

You can negotiate complicated deals, balance your books, design letterhead, and learn new computer programs; but can you write a good business letter?

Few things intimidate the average business person more than putting pen to paper (or finger to keyboard) to communicate with another business person. However, writing isn't nearly as hard as it seems, especially today, when business communications are leaning toward a conversational style.

Believe it or not, contractions and personal pronouns are now acceptable, even desirable, says Patricia Westheimer, president of Westroots Business Writing Systems, a company she founded to teach people how to write for business. Westheimer has worked with hundreds of corporations in diverse fields, including electronics, banking, health care, and education. She has written five books on business writing published by Scott, Foresman and Company. A sixth, *Grammar for Business*, is scheduled for publication early this year.

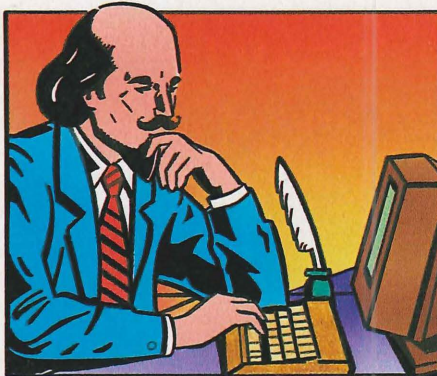
STEPS TO BETTER WRITING

The essence of Westroots is Speakwrite, an instructional program Westheimer developed to rid writers of their red-mark resistance: "So many people have writing inhibitions left over from school days, when teachers returned papers with red marks all over them," says Westheimer. "Worse, if they can't spell, they're convinced they can't write."

Word-processing software and computerized spelling checkers help eliminate the latter roadblock, although Westheimer warns writers that spelling checkers won't catch everything. A typographical error could be entering *used* for *sued*, for instance. A spelling checker wouldn't catch that mistake, but the recipient of your letter certainly would.

Here's Westheimer's synopsis of Speakwrite:

Step 1: Prewrite. "Most people think that if they were really good writers, they could turn out perfect copy the first time around.



That fallacy can lead to poor writing," says Westheimer.

Prewriting is nothing more than planning your writing just as you would plan any other business endeavor. Begin prewriting before you even turn on the computer. Determine first who you are going to address. "Decide what your readers need to know," says Westheimer, "not what you want to tell them."

Assume that the reader has time to read no more than your first paragraph and put the most important information at the top.

Step 2: Free write. Start writing and don't stop. "One of the biggest deterrents to good writing is letting the editor in your head step in and tell you that you aren't good," says Westheimer. "There's a place for that editor, but not until the last step. For now, turn it off."

Instead, get all your thoughts on paper. If you're working on one idea and have another, add a slash and insert the new one. If you hit a wall, leave a blank space or type a few dots and go on. The point is to get it all out. Free writing alleviates writer's block.

A word of advice: Double or triple space your document so you can edit it easily later. Print out the hard copy, then let it sit. As Westheimer says, it's very hard to edit what you have just written.

Step 3: Rewrite. Now it's time to turn on that editor in your head. Westheimer offers four rules to facilitate the process:

- Decrease sentence length. Studies have shown that sentences up to 17 words long are about all the reader can handle, according to Westheimer. Where possible, use bulleted lists. They add interest and break up the monotony of straight copy.

- Omit needless words and eliminate clichés, redundancies, anachronisms, and abbreviations. Also, never start a sentence with a conjunction; although you may see that style used in magazines, it's still not appropriate for business writing, says

Westheimer. Another taboo: starting letters with the word *I*.

Business-writing consultant, Donna Freiermuth, author, adjunct journalism professor at California State University in Long Beach, and cofounder of Writing for Results in Santa Monica, California, has developed a "search and destroy" test that complements Westheimer's rules. "Delete phrases like 'on account of,' 'at this point in time,' 'each and every,' 'in regard to,' 'in a great many cases,' 'in order to,' 'in the vicinity of,' and 'the fact that,'" says Freiermuth. In addition, she lists nine "dull and empty verbs to avoid:" *make, have, occur, go, move, get, come, do, and be*.

- Relax stuffy language. This rule is the heart of Speakwrite, says Westheimer. "The purpose of language is to express, not impress," she says, reiterating the acceptability of pronouns and contractions in copy. Be conversational rather than formal, simple instead of literary. A tip: One- and two-syllable words are better than three-syllable words.

- Use strong verbs. Stay away from various forms of *to be*, like *is, are, and was*. Use action words instead and use the active rather than passive voice. "The manager decided to move" is better than "The decision to move was made by the manager."

After editing your copy, circle the main points of your communiqué and be sure they appear first. Check for punctuation using a grammar program. Print out your copy again and proofread it one last time. Reading aloud will help you catch transposed letters and spelling and punctuation errors. To pick up errors, try reading backward from right to left, bottom to top, and word by word.

Finally, Westheimer asks: "Is your letter or document written for your audience? Is your tone professional, natural, and positive? Is your writing clear? What kind of impact will your document have?"

Remember, your document's appearance is as important as what it says. Use *white space*; short sentences, brief paragraphs, and wide margins leave breathing room for your information, making it visually pleasing. Keep your document clean and don't handwrite a single correction. You have a computer; use it to create clean, not to mention carefully edited, copy. ■

For your complimentary copy of Westheimer's *Ten Tips on Better Writing*, send a self-addressed, stamped envelope to Patricia Westheimer, 2930 First Ave., San Diego, CA 92103.

RONNIE GUNNERSON, a contributing editor, wrote "How to Protect Your Products and Ideas" in last month's HOME-OFFICE COMPUTING.

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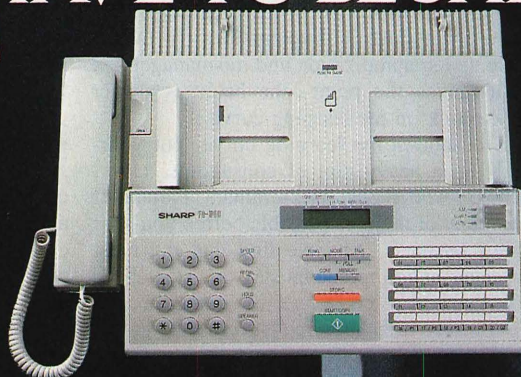
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From Paycheck to Profit Mentality: Making the Big Shift

BY PAUL & SARAH EDWARDS



The rate of small-business failure is going steadily down, according to the Small Business Administration (SBA). It used to be that four out of five small businesses were gone within five years. The most recent number published by the SBA is three out of five. We're almost at the point that what has been called a failure rate should be called a success rate.

Still, too many small businesses go under. Why is the failure rate so high? We don't think it's for the reasons most commonly cited: undercapitalization, business mismanagement, lack of marketing, and so forth. We believe these are just the visible symptoms of the real ailment: the failure of the small-business owner to make the shift from a paycheck mentality to a profit mentality.

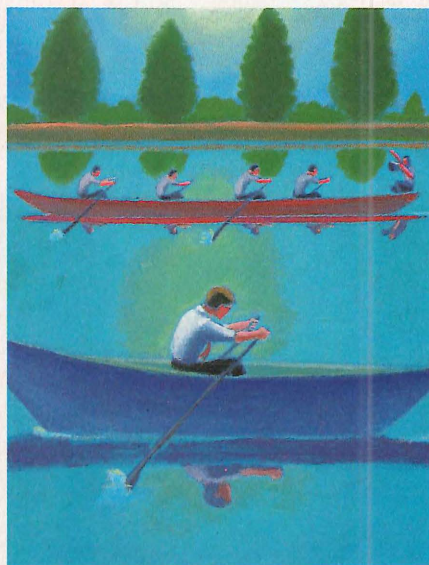
Most of us have been groomed for the paycheck mentality from the time we were infants. We learned that if we did what we were told, our parents would be pleased and would reward us. In school, we were taught more of the same: Follow the rules, learn the right answers, do what the teacher tells us, and get a passing grade.

These lessons trained us to come to work on time, work hard, do as the boss or at least as the job description said, and receive a paycheck. If we did it well enough, we got a raise.

When we ventured into our first entrepreneurial efforts, we discovered quickly that the profit mentality requires an entirely different mind-set. Here are a few of the most critical mental shifts we had to make:

Profit Is Created, Not Received. When working for a paycheck, you have to please someone else—usually the boss. As long as you do, your paycheck will arrive. In your own business, nothing arrives by itself, except bills. You have to create the profit. You don't even get a chance to work unless you generate the opportunity to do so.

PAUL & SARAH EDWARDS are the authors of *Working From Home, Everything You Need to Know to Live and Work Under the Same Roof* (Jeremy P. Tarcher, Los Angeles) and cohosts of the Sunday evening "Home Office Show" on Business Network Radio.



As an entrepreneur, you don't receive income, you generate it.

That's what marketing is about. As an entrepreneur, you don't receive income, you generate it.

We've learned to set very specific income-generating goals and give first priority to taking actions each day that help us achieve those goals.

You Earn After You Learn. On the payroll, you have the luxury of on-the-job training. If you don't know what to do, usually someone will instruct you. Not so in your own business. There's no profit until you know how to produce it. Explanations for failure like undercapitalization and mismanagement often miss the point—the business owner was stuck on the learning curve.

To shorten the learning curve, put yourself on a heavy diet of consultants, tapes, books, workshops, and seminars. Partake of as many of these as possible before you start your business. And we find that the most successful entrepreneurs stay one step ahead of their next challenge by continuing to learn even after they're "successful."

Business Is an Experiment, Not a Procedure. Having read many business books,

taken dozens of courses and seminars, listened to several consultants, and learned much of value from them all, we've discovered that, contrary to what some of these resources claim, there are no fixed rules in business. There is no one right way; there are many right ways and many wrong ways. The right way for one entrepreneur is the wrong way for another.

For example, Phil Marino, founder of the first radio guide in Los Angeles, told us, "Having a solid business plan was one of the keys to our success. We would recommend it to any new business." On the other hand, Mad Mike Anderson, founder of Mike's Burger Madness in Newport Beach, California, told us one key aspect to his success was that he never got bogged down in writing a business plan. He just did business. Both these entrepreneurs have been successful. They found their ways. That's what we each have to do. Follow our hunches, test, evaluate, and redirect.

You've Got to Stay Up. On the job, you get sick leave, vacation time, coffee breaks, quarterly performance evaluations, pep talks, and lots of downtime. Plus, your supervisor is always there to keep you on your toes—be it with good advice and support or an implied or actual threat.

In your own business, you don't get any of these perks unless you create them. You literally have to become your own boss—your own cheerleader, disciplinarian, mentor, coach, best friend, and trainer. You have to keep yourself motivated every day. Here are several ways to stay up:

1. Surround yourself with positive, successful colleagues and friends. Their attitude and energy will rub off on you. Stay away from energy drainers.

2. View your mistakes as stepping stones. Celebrate each as a discovery. A mistake is only genuinely a debacle if you learn nothing from it.

3. Set up a nourishing home-office environment with good light, positive colors, relaxing and upbeat background music, comfortable and functional furniture, and appealing artwork or scenic views.

4. Take frequent 60-second vacations: mini walks, naps, deep breaths, imaginary trips to a vacation paradise.

5. Greet your negative feelings as valuable messengers with clues to actions you need to take or things you need to avoid. ■

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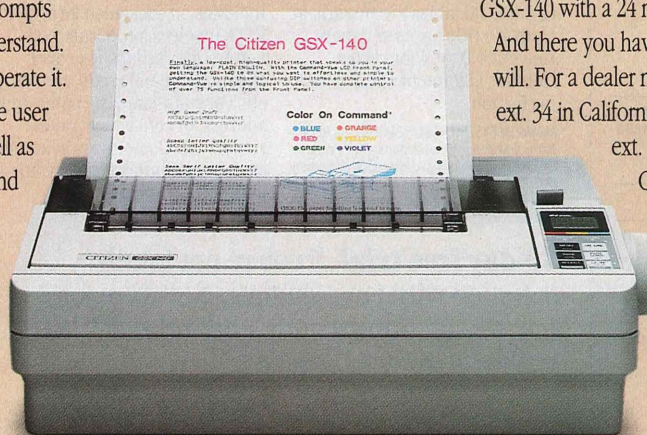
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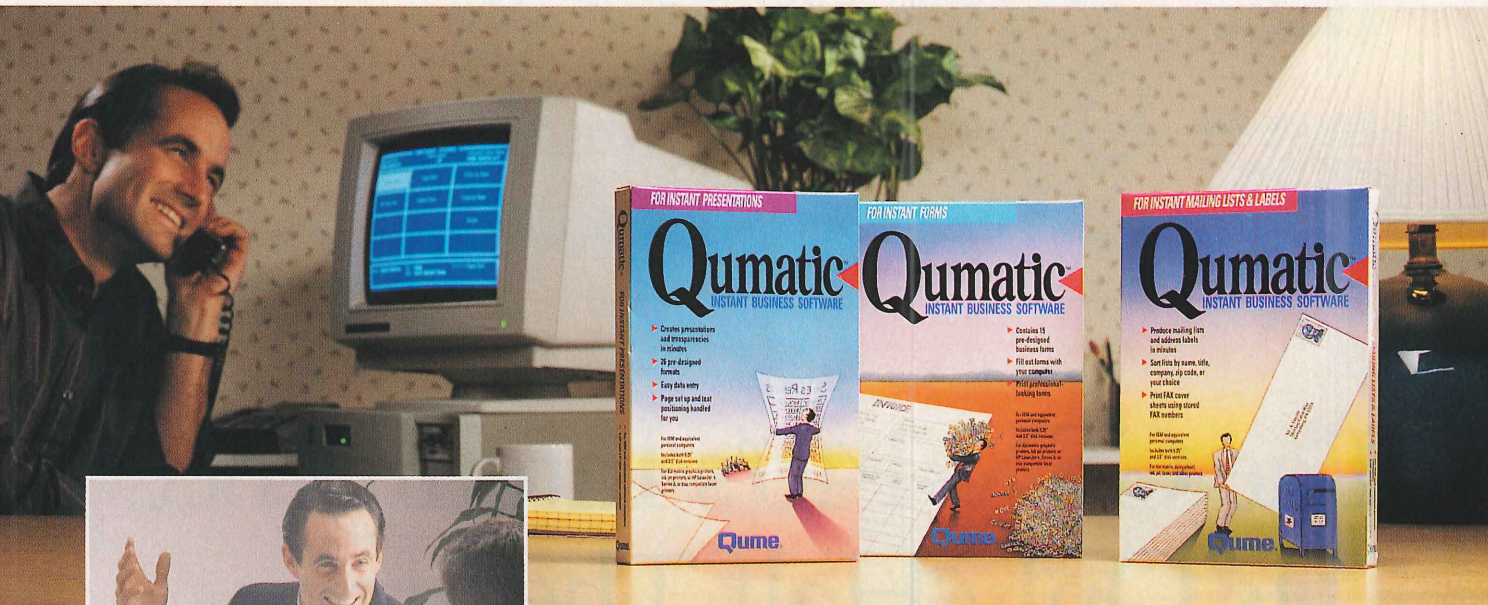
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Managing Growth

The Challenge Every Business Wants

BY BARBARA STEIN

Joy Jenkins suffered none of the usual anxieties when she and her partner decided to expand their word-processing, data-processing, and equipment-sales business. After all, teamwork had brought them this far, and she figured they'd struggle through expansion together, too. But everything changed during the restructuring: Suddenly, the pair seemed to have different visions of what the business should be. Joy's dream was to serve the ongoing needs of the advertising, direct-mail, and corporate communities; her partner preferred selling hardware and software to accountants. It was the beginning of the end of the partnership and a turning point for the firm.

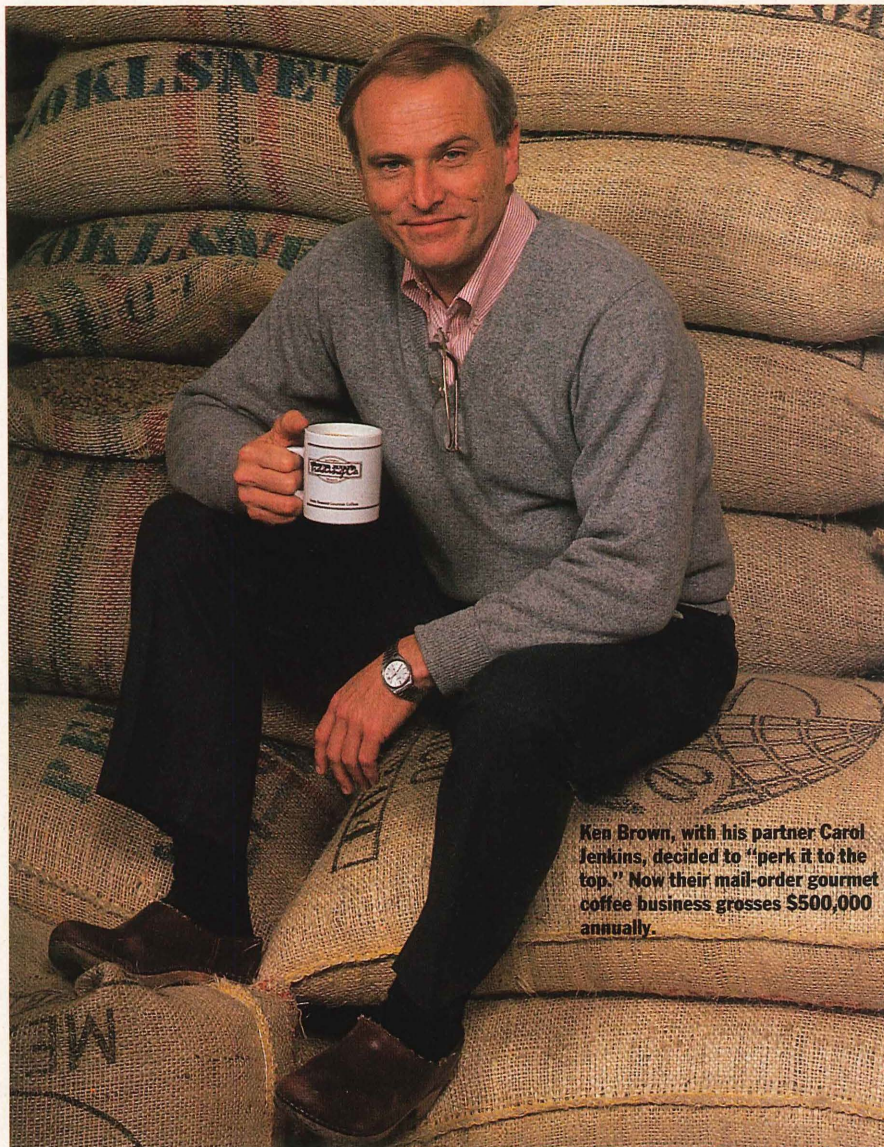
"Suddenly I realized it was all up to me, that I'd have to go it alone," Jenkins recalls. "And it was the aloneness that scared me. I wasn't used to thinking that way. But the fear disappeared once I made the commitment and accepted that I had full responsibility for the outcome of the expansion. That's when the business came alive."

Most businesses reach a point where growth becomes a critical issue. But the term *growth* is loosely defined. Growth can mean increasing office space or adding employees. It can also mean including more services, products, customers, or equipment. The overriding notion, however, is that growth will bolster profits.

As Jenkins discovered, the road to success is paved with uncertainty and risk. Expansion, after all, forces us beyond our comfortable limits into the unknown. But many of those who have accepted the challenge and struggled to the top say they'd gladly do it all again. In the final analysis, deciding how and when to expand—or if you should expand at all—is one of the most weighty issues you'll face as a business owner. The right decision could bring you fame and fortune; the wrong decision could leave you looking for work.

Jerry Christison, an assistant district di-

BARBARA STEIN, wrote the two-part series "How to Hire an Employee," which appeared in the October and November issues of HOME-OFFICE COMPUTING.



Ken Brown, with his partner Carol Jenkins, decided to "perk it to the top." Now their mail-order gourmet coffee business grosses \$500,000 annually.

rector for the Small Business Administration (SBA), says that many business owners don't do the background work that is critical in making an informed decision about whether or not to expand. "A lot of people fail to determine if the business is worth expanding in the first place," he says. "They don't develop comprehensive business plans that take into consideration bal-

ance sheets, cash-flow projections, and added expenses for space and employees. These are areas we examine before lending money. The second issue is the owner's ability to manage people. Most business owners who start at home haven't dealt with hiring, firing, government regulations, and worker's compensation. Some people learn early on that they're better off staying small, being

technicians and offering specialized customer service. Others learn too late."

When HOME-OFFICE COMPUTING asked successful business owners to outline their philosophies of expansion, we heard such phrases as "controlled growth," "cost consciousness," and "hands-on work." Although the nature and size of these businesses varied considerably, their owners had surprisingly similar strategies: Always stay in charge, watch your pennies, and develop a management style that fits your personality. Says Jenkins of herself: "I'm very, very

conservative. I take home a small salary and put everything else back into the business. I don't buy anything on credit. I own every piece of equipment except the postage meter. And I own all my own furnishings. If I'm doing a job for someone that requires equipment I don't own, I purchase it as part of the contract."

What follows are the stories of how Joy Jenkins and two other business owners handled their decisions to expand, how they controlled their growth, and how they kept their coffers full in the process. Karen Cum-

mings Coughlan wanted to expand without leaving home or hiring more employees. She accomplished this by maximizing the customer base of her original company, WonderWords, and creating spin-off businesses that she could gear to that same clientele. Ken Brown and Carol Jenkins didn't mind moving out of their home and leasing office space. They cultivated a growing customer list using computers. What all three of these companies share is the willingness to embrace growth and the resilience to turn change into opportunity.

Personalized Services to Step Up Success

"We do whatever works for our customers," says Jenkins, 45, the affable CEO of San Diego's Pacific Info Systems. A self-described "people person," Jenkins has always prided herself on meeting and exceeding customer needs. Meeting those needs could mean furnishing database management, systems networking, software support, or supplies, word and data processing, giving out free information, or sending clients to competitors, says Jenkins. "Our business plan was never cast in iron. We wanted to be flexible and free to go into new areas as needs arose. We finished last year at \$790,000—success is sweet."

Urging the business on to success has been an uphill battle. In 1979, Jenkins's husband died, leaving her with two small children. That same year she formed a part-

nership with a friend and began working from home.

"My partner, Jim Clark, sold insurance part-time, and I did the word processing," she recalls. "He called on those who responded to our mailings, while I sat at a dedicated word processor half the night. Six months later, we decided that it was time to rent office space. We had been limited by our location, our phones (we couldn't get a third line), and our social needs. The business is geared to other businesses, and since I lived in the suburbs I was missing out on the business trade. Besides, I missed being with people."

For the next three years, the company operated from an 800-square-foot storefront. Clark stopped selling insurance, and the pair worked day and night. More and more busi-

ness came their way.

"That's when micros became cost-effective," says Jenkins, "and we looked into what was available. We found systems that came with bundled software and foresaw that people would learn to do their own word processing. So we decided to supply support and backup services and to teach people how to use their equipment. We became a service bureau for a company called Morrow Micro Decision (makers of one of the first laptop computers), selling and servicing their systems for retailers and end users. Then we moved up the street and doubled our physical space. We were generating \$5,000 to \$10,000 a month. We hired a technician to do the things we couldn't."

While Jenkins concentrated on growing the word-processing end, Clark took over the computer support and services. As both sides of the operation grew, they hired Martha Hoffower, who still manages the front office. Meanwhile, they became licensed distributors for Toshiba, Microsoft, Ashton-Tate, and several other hardware and software companies. When the MS-DOS operating system hit the market in 1984, Pacific Info Systems contracted with a hardware manufacturer to distribute an IBM clone. The company also began offering MS-DOS upgrades and hardware and software conversions to customers who had been using the old CP/M operating system.

"We became experts in disk conversion and compatibility just by doing it," Jenkins explains. "We offered to trade the CP/M computers for MS-DOS computers and made sure that our customers' new systems would run both. But our profit margins dropped. In the CP/M days, a 30 percent margin was standard. We were spending more money but not generating more profit, and our overhead was tremendous. Meanwhile, the word-processing end was growing and the only overhead was employee salaries. We'd added a bookkeeper, a supplies manager, and more people to word process, including a night crew. It was at this point that Jim and I had a parting of ways. He'd lost his foothold in the word-processing end of the company, and he was unwilling to put in the necessary hours to

TIPS FOR EXPANSION

- Make sure the business is worth expanding. Double-check your balance sheets and cash-flow projections and figure in added expenses for additional office space or remodeling, as well as equipment and employees.
- Write a new business plan. Make a conscious decision about how much capital you can commit and how large you want to grow.
- Review your goals. If your long-term goals have changed, adjust your short-term goals accordingly.
- Develop a management style that fits your personality. Determine how many roles you'll have to play, how many tasks you'll need to give up, and how comfortable (or uncomfortable) you'll be trading hands-on work for administrative tasks.
- Search for new opportunities. Scrutinize the market and see if there are segments that your competitors have overlooked.
- Focus on customer satisfaction. Survey customers by mail or phone and ask for their input. Ken Brown and Carol Jenkins's customers (*see profile*) were happy to outline their coffee-drinking patterns and future needs and willingly commented on company services. In response to their needs, Brown created a coffee club so he could refill orders automatically.
- Consider alternatives to increasing office space and employee numbers. Independent contractors and added equipment may help you grow your customer base without increasing your overhead.
- Expand your mailing list. Solicit customer referrals or purchase a targeted list.
- Add coupon incentives. Supplement your mailers, newsletters, or brochures with freebies or discounts. Karen Coughlan's offer of a free Santa letter, for example, encouraged customers to pay up front (*see profile*).
- Add spin-off businesses. Search for products or services that will complement your own. A well-targeted spin-off sometimes outdoes the original.
- Promote customer loyalty. Educate your customers with desktop-published newsletters or mailers. Make them believe that your product or service is the best available.
- Develop a strong relationship with your suppliers. Give them a clear picture of your present and future needs. Discuss volume discounts, ask to be informed of new products, and learn more about their incentive plans.
- Ask your customers for help in getting loans. If you opt to finance your expansion, ask customers for letters of recommendation and projections regarding their future purchases. Before leasing new office space, Joy Jenkins asked her largest accounts to send letters of recommendation to the building's owner. It helped her negotiate the lease.
- Consider adding a partner or forming a limited partnership. Ask your attorney and accountant for advice on drafting legal documents and determine the tax consequences of either option.

Joy Jenkins, San Diego, California

COMPANY: Pacific Info Systems—word processing, data processing, list management, and equipment sales and servicing

ESTABLISHED: 1979

EMPLOYEE GROWTH: Began as a two-person partnership; today employs 15

1989 GROSS INCOME: \$790,000

EQUIPMENT: 15 IBM-compatible computers, 8 Canon laser printers, 10 dot-matrix printers, Minolta copier, Pitney-Bowes 5600 postage meter, Hitachi Hifax 17 fax machine

SOFTWARE: WordStar, dBase III+ and dBase IV, Plus Accounting

EXPANSION PHILOSOPHY: "I stay flexible. Instead of having a set plan or idea, I expand my capabilities and move in the direction of the demand, staying open to what customers are asking for. I'm service oriented."



Joy Jenkins bolstered profits by providing individualized services for every client.

drawn to her quality output, speed, attention to detail, and personalized service. As promised, she gave them whatever they needed. Soon Pacific Info Systems's income doubled and again outgrew its space. Last year, the company moved to a high-rise in San Diego's posh Mission Valley where, says Jenkins, "I can invite my clients in and not worry about the clutter."

Despite tremendous growth, Jenkins insists hers is a small business operated by friends. "I have fun with my people," she says. "I still have the first person I hired and lots of loyalty. I'm a grandmother now. I work 10 to 12 hours a day, six days a week—I'm having a ball."

help me run it. So he opened his own shop specializing in systems and software for accounting firms."

Determined to expand, Jenkins worked side by side with her staff and devoted per-

sonal attention to every client. She contacted her word- and data-processing accounts and helped them integrate the latest technology into their ongoing projects. She gained new clients—major corporations that were

Publisher Spins Off New Businesses

Pregnant with her first child, Karen Cummings Coughlan knew that storybooks would soon become a part of her life. What she didn't know was that she would end up producing them herself.

Today, as owner of Pittsburgh-based WonderWords, Coughlan prints, binds, and markets (by mail-order and in person) a line of 14 hardcover books, all of which, as she says, "star your special child." Each book is personalized by computer to include a child's name, age, hometown, and friends' names. A "Star of This Book" photo sticker completes the colorful package.

"I had assumed that I would return to my work as an investment broker and auditor after the baby was born," says Coughlan. "But I wanted to care for Eddie myself, so I searched for business opportunities I could pursue from home. That's when I learned that the franchiser, Create-A-Book, was coming to Pittsburgh to demonstrate its story books. Although I had no computer, I was willing to learn to use one and Create-A-Book was willing to teach me."

Impressed with Create-A-Book's support, the quality of the software it provided, and the overall sales potential, Coughlan signed

on as a licensed dealer, paying fees up front and retaining rights to all future profits. Within two months, she was off to a running start with her newly purchased Apple IIc—producing books that she would sell for \$8.95 each. (Today her laser-printed books are priced at \$14.95, including shipping.) After deciding to launch WonderWords just before Christmas, she placed display ads in local publications and waited to cash in on the holiday rush.

No one responded. "I went into it starry-eyed," Coughlan recalls. "Books are big sellers at Christmas, so I thought I'd do well. Later, I discovered that small classified ads work better. Most people wanted to see the books before ordering, so I sent them my brochures. Gradually the word spread, although I still wasn't selling as many as I'd hoped to."

Realizing that people were more apt to buy once they'd seen the books, Coughlan began renting tables at local craft shows. Armed with her computer equipment and supplies, she would run her table for 10 to 12 hours, producing books by the dozens. The business picked up momentum.

"I do lots of shows now," says Cough-

lan, "but I no longer make up the books on site. Although it takes only about 10 minutes, my time is better spent talking with customers. I set up my display and offer incentives—such as a free letter from Santa—to anyone who orders on the spot. I make more sales that way. In the past, I felt overwhelmed by trying to produce and market the books simultaneously."

Now Coughlan is branching out. Dipping into what she calls her "personal notebook of 100 ideas," she's maximizing her profits by creating spin-off businesses. In the past 18 months, she has added the WonderWords Book Club, which includes a birthday club, and the fact sheet "Reading Tips for Parents," which she also distributes through libraries and schools. She's also joined the national Give-A-Book program, which is funded by local merchants and gives free books to kindergartners. In addition, she volunteers her time to Project Literacy and reads to children whose parents are learning to read.

To stay involved with the investment industry, Coughlan works part-time in her husband's investment and financial counseling business, which is also home-based.

Karen Cummings Coughlan, Pittsburgh, Pennsylvania

COMPANY: WonderWords—mail-order personalized children's storybooks

ESTABLISHED: 1986

EMPLOYEE GROWTH: Began as sole proprietorship with occasional part-time help from husband and sister and continues that way today

GROSS INCOME: \$75,000 to \$100,000 from combined spin-offs

EQUIPMENT: IBM PS/2 Model 25, Apple IIc computer, Apple ImageWriter II printer, Ricoh Laser 6000 laser printer

SOFTWARE: Private-label software provided by Create-A-Book, AppleWorks, The Print Shop, The Print Shop Companion, The Print Shop Graphics

EXPANSION PHILOSOPHY: "We don't allow our lives to be ruled by the business. We prefer being flexible and free, to allow the businesses to help us get what we want in our personal lives."

through parties similar to Tupperware parties. "I'd like to offer children's cassettes, games, and other products," she says. "Once that gets going, I'll step out and hire independent contractors to sell products from their homes for a cut of my profits. But I don't plan to take on partners or employees. I'll go to a temporary agency before going through the employment process. Last Easter I was invited to display my books at Kaufmann's, one of the largest department stores in Pittsburgh. I opted to take advantage of its employees instead of hiring my own or working there myself. I like hands-on work and I like the freedom and flexibility of my life."

PHOTOGRAPH BY BRUCE ZANE



Karen Cummings Coughlan dipped into her "personal notebook of 100 ideas" to create spin-offs of her original company, WonderWords.

"Jerry is the main person in his business, and I'm in charge of mine, but we help each other, and that includes caring for Eddie, who is now three years old," she says. "The problem is that we're always tripping over each other. Right now we're looking

for a new house that will have separate entrances for our offices."

Coughlan already has plans for the new house. She's investigating yet another spin-off business, this time creating and selling products that she plans to distribute

Using Technology to Expand a Customer Base

If you like the smell of fresh-brewed coffee, you can imagine why Brown & Jenkins Trading Company, a mail-order firm that roasts and sells gourmet coffee and related products, became such a success. The Burlington, Vermont-based company offers everything from sweet-tasting Jamaican Blue Mountain coffee (often priced at \$30 a pound) to private blends and flavored coffees, as well as a line of gift baskets, jams, chocolates, and syrups.

Despite dramatic growth in the past two years, company president Ken Brown continues to operate the company like a small business. "Being corporate has never been my style," says Brown, who, along with partner Carol Jenkins, founded the company five years ago. "I was with a mail-order gardening company until it moved its offices to New York. Carol, who was a company accountant, and I opted to stay behind and start our own business. We researched everything from solar greenhouses to clothing. Coffee was the last item on our list. We both enjoyed it and ground our own beans. Although coffee had been losing market

share, gourmet coffee sales were rising at a spectacular rate. We decided to perk it to the top."

To test the market, Brown and Jenkins placed advertisements in several large-circulation food magazines. They had already contacted suppliers and set up shop in their three-story Victorian home. They had converted a bedroom to an office, the living room doubled as a grinding room, and the basement became the shipping department.

The pair hadn't expected to be overwhelmed with orders, but they had hoped for more than the few hundred responses they received at first. Discouraged, they filled the orders and put the idea on the shelf, where it had little time to collect dust. Suddenly, reorders and fan mail arrived by the bundle. "This is the best coffee I've ever tasted. Please send . . .," the letters read. Brown and Jenkins Trading Company was reborn overnight.

RESOURCES

Innovation and Entrepreneurship, Practices and Principles, Peter F. Drucker (Perennial Library, 1986; \$11). A classic filled with fascinating case studies showing you how to unlock opportunities, find niches, and discover secret advantages.

Doing Business Boldly, Daniel Kehrer (Times Books, 1989; \$20). Kehrer discusses the hows and whys of risk taking and offers expert advice and real-life examples. Subjects include strategies for launching a business, financing start-up companies, and changing and reorganizing a firm.

Vital Business Secrets for New and Growing Companies, L. Joseph Schmoke and Richard R. Allen (Richard D. Irwin Publishers, 1988; \$34.50). A step-by-step guide with how-to strategies for growing a business, creating a dynamic business plan, raising capital, and managing more effectively.

SBA Loans, Step by Step Guide, Patrick D. O'Hara (John Wiley & Sons; 1989; \$15). Everything you need to know in order to obtain an SBA loan. This workbook outlines SBA loan requirements and includes worksheets and samples of typical loan packages.

Carol Jenkins left her job as an accountant to roast coffee with partner Ken Brown.



SNAPSHOT

Ken Brown and Carol Jenkins, Burlington, Vermont

COMPANY: Brown & Jenkins Trading Company—mail-order gourmet coffee and related products

ESTABLISHED: 1984

EMPLOYEE GROWTH: Began as two-person partnership; today employs five

GROSS INCOME: \$500,000

EQUIPMENT: Compaq 80286-based computer, Compaq 80386-based computer, IBM 80386-based computer, HP LaserJet II laser printer, QMS laser printer.

SOFTWARE: Aldus PageMaker, dBase III+, Microsoft Word, Lotus 1-2-3

EXPANSION PHILOSOPHY: "I want to grow as fast as capital will permit until the business is less dependent on me," says Brown. "I'll do that by forming a small decision-making team."

"We sat down and reevaluated our approach," said Brown. "Since reorders were always a part of our marketing plan, we called 100 of our customers and asked for their comments. They told us how they felt about the quality, service, and packaging and about how much coffee they drank. Making the commitment to expand meant that we had to do our own roasting and green-coffee buying. We spent the next four months filling orders, visiting roasters around the country, learning to roast, and looking at equipment. We ended up buying a giant roaster, which wouldn't fit in our house. That's when we went looking for office space."

What they found was a dilapidated building that a developer was renovating. The developer liked the idea of having a coffee roaster rent one of the offices and offered to sweeten the deal if the company would also run the building's food service, providing coffee, sandwiches, and pastries.

"It wasn't what we wanted to do," Brown admits, "but the lease was attractive, and we needed space. We accepted, thinking that running a restaurant wouldn't be a big deal. But we found out the first week that it was a very big deal. It was difficult managing both businesses."

Eighteen months later, Brown and Jenkins sold the restaurant to a woman who

continues to sell their coffee, by the cup and the pound, and moved the roasting operation to a more industrial section of the same building.

"Our business plan has been thrown a lot of curves," says Brown. "We knew we didn't want to be a local or regional coffee roaster. We wanted to grow our customer base to at least 50,000 and still operate with a minimum number of employees. We don't need a storefront or fancy fixtures. With

mail-order and computers, you can do a lot with a few people and keep your overhead costs down. Our employees don't need to stand around and wait for customers. We're still refining and becoming more efficient—we couldn't do it without our computers. Before personal computers, we would have needed 20 employees or more to do the volume we do with five. Our computers allow us to stay small, and that's the way we like it."

In-house computers also create the company's 22-page, four-color catalog. Using Microsoft Word, Aldus PageMaker, and his QMS and Hewlett-Packard laser printers, Ken writes, designs, and typesets the catalog. Gift certificates, the company's automatic shipment Coffee Club offering, and personalized letters are also generated by computer.

At the moment, says Brown, the company is "pressing the walls" and they're considering moving to a new facility. But, as he explains, "we're not eager to increase our overhead. We're pumping our resources into building our mailing list, coffee club, and catalog and adding related food products. Offering new products is also part of our expansion plan."

"Still," he adds, "coffee will remain our primary product. We've always liked coffee, but now we're fanatics."

Make Printed Business Materials Stand Out

Basic Graphic-Design Techniques You Can Put into Practice Today



(Even If You Can't Draw)

BY LESLIE SIMONS

With today's growing flood of television and print advertising, people judge just about everything by its appearance.

It doesn't matter whether you decry this trend or embrace it: To stand out from the crowd, your business materials must not only read well, they must look good.

Businesses have traditionally relied on graphic designers and illustrators to give their materials the competitive edge. However, with a desktop-publishing system (including a laser printer and page-layout and illustration programs) and a bit of practice, you can start producing professional-looking newsletters, fliers, and brochures.

What can you do on your own to give your materials today's crucial visual impact? Begin with your sense of discovery, and then experiment with some of the graphic-design suggestions that follow.

THE FIRST STEP? GET EXCITED!

In 1986, Jan Wright was a librarian in a Colorado community college. Today, she is sole proprietor of Wright Information, a desktop-publishing service in Seattle. Working from her home office, Wright produces business forms and newsletters, as well as promotional materials, using a Mac Plus, *PageMaker*, and *Aldus FreeHand*.

"I first learned about desktop publishing in Colorado, while supervising the library's computer lab," Wright says. "Several students were putting together a newsletter using an early version of *PageMaker*. When the program wouldn't work, I'd be called in to get it up and running again."

As she tinkered with the computer, printer, and software, Wright discovered an exciting array of desktop design, production, and printing techniques.

"I had fun drawing my own pictures, using clip art, and arranging those images along with text—just the way I wanted it. It

LESLIE SIMONS, author of the *Getting Started manual for PageMaker 3.0*, wrote "Grow Your Business with a Professional Identity" in the August 1989 issue of HOME-OFFICE COMPUTING.

was great!" Step by step, with no previous training in either graphic design or the fine arts, Wright practiced her skills and began to produce her own designs.

THE PAGE LAYOUT TALKS TO THE READER

One of the first graphic skills Wright worked to master was basic page organization, or *layout*.

Layout is the term designers use to describe the arrangement of text and graphics on a page. A layout *grid* helps you organize each page through a structure of nonprinting vertical columns, horizontal measuring guides, and side, top, and bottom margins. This organization can be simple or complex, depending on the nature of your publication.

Business materials, for example, should get attention and convey ideas as quickly and easily as possible. To develop a smooth, ready flow of information, keep your layout grids simple. Also, as you create page layouts, trust your common sense. "Pay attention to the way your eye moves across the page," Wright suggests. "Ideally, your eye should follow the path you want readers to follow." Remember that most people scan a page from left to right. Arranging headlines vertically or diagonally attracts attention, for example, but it also makes for difficult reading.

A cluttered page is a sign of amateurish work. Wright prefers to organize her page around one dynamic visual element. "Before I start," she says, "I locate a piece of text or an image I want readers to focus on, then I look for graphic elements that will accentuate it."

HOW TO HIGHLIGHT YOUR MESSAGE

Graphic elements contribute to the success or failure of any design. Used appropriately, they attract attention to your message and inspire a positive response. If used to excess, though, "they make your eye go crazy," Wright says.

As an example, Wright described a real-estate flier she'd seen recently. "A friend designed the flier for his sister," Wright

recalls. "She was selling her house, but you wouldn't guess it from the flier. In the upper right corner, there was a large block of text, telling how the house was located near a nationally ranked high school. I asked him whether he was selling the house or the school. We finally created a simple flier with a prominent image of the house and a bulleted list of important sales features. We also got rid of his mishmash of type styles—bold, italic, and plain.

"Remember to keep it simple," Wright says. "Don't put a dozen pictures on a page, mix too many typefaces, or add too many rules or boxes. It's tempting to see all the possibilities and combine them at once, but you've just got to rein yourself in."

FIVE EASY-TO-USE GRAPHIC PIECES

There are several graphic elements you can use to give your message visual punch. (To see how the suggested elements work in page layouts, refer to the accompanying illustrations.)

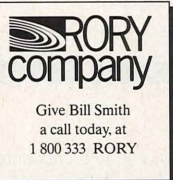
Rules, boxes, and borders are three kinds of line-based art. They are most often used to set off areas of text or graphics.

Rules can be vertical or horizontal, black or in color, heavy or light, depending on the effect you want. Use heavy, horizontal rules when you want to highlight a newsletter masthead or brochure title, for instance. Horizontal rules also can link headlines with supporting body text. Will your newsletter have long feature articles continuing across several pages? Try adding fine, vertical rules between page columns. This divides copy and helps guide your reader's eye through long passages of text.

Rules, like any other page element, should attract, not distract, your reader. Strive for balance between rules and text. If you use rules within body text, make them a consistent weight throughout. Allow ample space between rules and neighboring copy. Also, make the weight of your rules appropriate to the type you want to emphasize.

Boxes generally enclose text or graphics

WE'RE
WORLD
STOCKS &
BONDS,
OIL,
HOUSING,
AIRCRAFT,
EDUCATION,
FACTORIES,
CHEMISTRY,
SPACE
TECHNOLOGY
AND A
WHOLE LOT
MORE.



WE'RE
MORE
THAN
YOU
THINK...



GRAPHIC ELEMENTS OF DESIGN

Illustrations, photographs, and charts are not the only graphic elements to consider when designing a page, just the most obvious.

In the sample brochure pictured here, bit-mapped pieces of clip art (borrowed from HyperCard) are used for the central images on the cover and inside pages. The chart on the upper right inside page is an Encapsulated PostScript (EPS) file—a graphic that combines a bit-mapped image for the computer's screen with PostScript instructions for the laser printer.

In order to highlight the company's 800 number—and draw the reader's eye to it—a drop shadow frames the box.

Times and Helvetica (available on nearly all PostScript laser printers) make up a classic pair of serif and sans-serif typefaces. As a general rule, use sans-serif type for headlines and other small bits of text, and make the key heads larger and bolder than other text. Serif type is best for body text, since it's easier to read in longer passages than type without serifs (those penstroke-like extensions on certain letterforms).

The numbers before the Rory Company's four sales offices were created with dingbats—special typographical symbols. Some dingbats are clip art; others come from typefaces that comprise graphic images instead of letters. Because it's found on most PostScript laser printers, Zapf Dingbats is the most common graphic typeface.

The Rory Company's logo was created as an Encapsulated PostScript (EPS) file, which gives crisp printouts on PostScript laser printers.

Here at Rory we're more than meets the eye, we are in the business of being in business. Some of our clients are probably the best know names in their fields. From atomic energy to education, from oil and drilling to space exploration. At Rory we've got it covered.

Here at Rory we're more than meets the eye, we are in the business of being in business. Some of our clients are probably the best know names in their fields. From atomic energy to education, from oil and drilling to space exploration. At Rory we've got it covered.

Some of our clients are probably the best know names in their fields. From atomic energy to

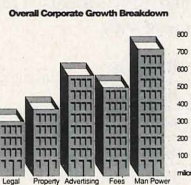


education, from oil and drilling to space exploration. Here at Rory we're more than meets the eye, we are in the business of being in business. Some of our clients are probably the best know names in their fields. From atomic energy to education, from oil and drilling to space exploration. At Rory we've got it covered.

Our growth over hte past five years has been incredible, to say the least.

Some of our clients are probably the best know names in their fields. From atomic energy to education, from oil and drilling to space exploration.

So to find out more about how we can help you, just give Bill Smith a call today, and find out



how you can join this exciting new high growth company in its field. Our growth over hte past five years has been incredible, to say the least. Some of our clients .

To find out more about how we can help you, just give Bill Smith a call today, at 1 800 444 RORY and find out how you can join this exciting new.

MAIN SALES OFFICES

- ① Rory International
555 West 57th, Street
New York, NY
212-321-4567
- ② Rory Mid West
123 Broadway
Chicago, IL
613-333-RORY
- ③ Rory South
9999 Las Olas Blvd.
Fort Lauderdale, FL
305-333-RORY
- ④ Rory West
99888 West Avenue
Los Angeles, CA
222-333-RORY



that are related to, but independent of, body text. For example, see the boxed *sidebars* that accompany this article. Boxes serve a dual purpose: They indicate that the enclosed copy or graphic is optional to your understanding of the larger article while they signal that it may also contain information of additional interest.

Boxes are strong visual elements, much like illustrations, and should be used carefully. (In many cases, consider using rules, instead of boxes, to separate or highlight

text. Rules can achieve many of the same effects while giving your layout a more open feeling.) Avoid placing boxes in the center of a column of text. They can create visual roadblocks for your readers and make them wonder where to resume reading. Leave plenty of space between the box itself and the information it encloses.

Borders can frame or enclose entire pages. Enclosed borders are appropriate for academic papers and journals—dignified publications that are light on graphics and

heavy on text. If you want to give your materials a scholarly air, experiment with enclosed borders. If your promotions must combine lots of text and graphics and project a strong sales message, don't enclose your design. Enclosed borders can make pages feel restrictive or confining, an image most businesses want to avoid.

Tint screens and drop shadows are two more elements designers use to separate and highlight text and graphics.

Tint screens are panels of fine dot patterns

that can be placed over other elements—graphics or text—on the page. You can adjust the dot patterns by selecting a certain percentage of dots per inch in the screen. This creates a range of tinted shades from pale gray (a 10 percent screen) to black (a 100 percent screen). Some page-layout programs also let you add colored screens to your work.

Tint screens often work much like boxes, containing art or copy that is separate from, but related to, the main body text. Use the same care when positioning screens on your page as you would with boxes. To make screened text more legible, use lighter tints and select sans-serif typefaces, such as Helvetica. Serif type—such as Times Roman—tends to lose definition against a tinted background. (Serifs are the penstroke-like extensions on the stems, arms, and tails of certain letterforms. The type you're reading now, for example, has serifs. Sans-serif typefaces eliminate these strokes. The bylines and subheads in this magazine are examples of sans-serif type.) To eliminate the ragged edges on dotted tint screens, some designers enclose tint screens with fine rules.

Drop shadows, as their name suggests, provide backdrops, or shadows, for a variety of graphics. Drop shadows are generally created by selecting a graphic, duplicating it, applying a darker tint or color to the duplicate, stacking the duplicate behind the original, then offsetting the duplicate slightly. The resulting shadow gives the original art added depth and dimension.

You can use drop shadows to focus attention on a variety of boxed text or graphics, such as charts, maps, and photographs.

TURN TYPE INTO VISUAL EFFECTS

Type is one of the strongest graphic elements. Paradoxically, it's one of the elements most commonly ignored by beginning designers. Start to develop your eye for type by observing the hundreds, even thousands, of typefaces displayed every day in magazines and newspapers and on television. Notice how each typeface possesses a singular mood or personality.

As you design your business materials, keep the mood of the type appropriate to your product or service. For instance, New Century Schoolbook, a somewhat formal typeface, would be more appropriate for a newsletter than a sales flier. Also, try not to mix too many styles or sizes. In your early efforts, try to stick with two typefaces. Three classic combinations of serif and sans-serif type are Times and Helvetica, Palatino and Futura, and Univers and Garamond.

Select type sizes according to the order of importance of your text. Make headlines larger and bolder than body text, for instance. When you want to highlight an important message or idea, try making it bold or italic for a phrase or sentence (rarely a paragraph). You also can stretch or shrink

type for added emphasis. Many designers, for instance, expand letter spacing to fit mastheads and headlines across a page.

Individual type characters can be used as graphic elements, too. An enlarged pair of quotation marks can signal a letters-to-the-editor page in your newsletter. Dropped, raised, and ornamental capital letters can be effective ways to introduce your body text.

Real *dingbats*—as opposed to what Archie Bunker called a dingbat—are special typographical elements not found in standard fonts. Some printers, however, have built-in dingbat fonts. PostScript printers, for instance, use ITC Zapf Dingbats, a font based on characters designed by Herman Zapf, a mid-20th-century type designer.

Dingbats add important visual cues to your design. An enlarged pointing-hand dingbat, for example, can encourage readers to turn a page or find your phone number. Line up several identical dingbats and you'll create a decorative rule or border to separate text or graphics.

If you want to tell readers when they've reached the end of a story, use one small, distinctive dingbat. Perhaps you've already noticed the way most magazines, such as this one, use a dingbat consistently at the end of every article. This repetition helps readers make their way smoothly through the magazine. It also reinforces the magazine's individual visual identity in the reader's mind.

WHAT YOU NEED TO KNOW ABOUT GRAPHIC FILE FORMATS

As you work with imported graphics, you will encounter graphic file formats. A graphic file format is the structure an illustration program uses when saving files to disk. There are four basic categories of program files: *bit-mapped*, *object-oriented*, *scanned graphics*, and *PostScript*. Depending on your software and computer, these files will be designated by a variety of abbreviated names; in the MS-DOS world, these names are preceded by periods since they're used as DOS file-name extensions.

The accompanying chart details the major graphic categories and their associated file formats for MS-DOS and Macintosh computers, with an example program listed for each category. Note, though, that some programs can open and save files in several categories (although not all formats in each category). For instance, *SuperPaint* on the Macintosh can work with graphics in Paint, PICT, and EPS formats. On the MS-DOS side, *Corel Draw* can save files in eight formats in all four categories.

Category	File Formats	MS-DOS Program
bit-mapped	.PCX, .MSP	PC Paintbrush IV
object-oriented	.PIC, .WMF, .DRW	Corel Draw
scanned graphics	.TIF	Aldus Snapshot
PostScript	.EPS	Adobe Illustrator PC
Category	File Formats	Macintosh Program
bit-mapped	Paint, PNTG	MacPaint
object-oriented	Draw, PICT, PICT2	MacDraw II
scanned graphics	TIFF	ImageStudio
PostScript	EPS	Adobe Illustrator

As you work with graphic files, keep these four questions in mind:

1. What illustration program was used to create the graphic files? As noted, some illustration programs can open and save files in several formats. Other programs, such as Adobe *Illustrator* and Aldus *FreeHand*, export files in EPS format only.

Format flexibility can be important when, for example, your MS-DOS page-layout program cannot import .WMF files, or when your printer will not accept .EPS files. With software that has additional format options, you simply save files in a format compatible with your printer and layout software.

2. What software will you use to modify the graphic files? Page-layout software generally lets you make four basic file modifications. You can adjust image brightness and contrast, and resize and crop graphics. Before you resize graphics, check your software documentation. Learn how to resize different files proportionally. This changes the vertical and horizontal dimensions evenly and prevents image distortions. Also, check your documentation to see which modifications your program will or will not perform. For example, *PageMaker* will alter brightness and contrast for bit-mapped and TIFF graphics, but not for EPS or object-oriented graphics.

3. What is the purpose of the graphic in your publication? If the graphic should appear polished and professional, for example, object-oriented and PostScript file formats generally yield smoother images than bit-mapped or scanned images.

4. What printer will you use to print the graphic files? Your output device can determine which file formats you work with. For example, PCL and QuickDraw printers cannot print PostScript graphics files. Also, because of the differing resolutions of bit-mapped programs and some printers (72 versus 300 dots per inch, for example), you may end up with fuzzy, uneven graphics. See whether your layout program offers *smoothing* features to even out the edges of bit-mapped graphics.

For further information about graphic file characteristics and compatibility, consult your software and printer manuals.



COME RELIVE THE OLD TIMES AT OLD TIMES

The Old Times Restaurant & Ball Room
Corner Of Elm & Main
543-5687 For Reservations And Party Engagements

BASIC DESIGN FOR ADVERTISEMENTS

A cluttered page is the sign of an amateur. By making the photograph (an Encapsulated PostScript, or EPS, file) this advertisement's only image, the headline's message stands out.

A box surrounds the photograph, which helps define its space. Boxes work as windows for graphics or text.

The simple rule that surrounds the whole advertisement unifies the ad without making it look confined (as an elaborate border might).

The typeface combination of Garamond (a serif type) and Univers (a sans-serif type) can work well for many page layouts, including advertisements, fliers, and newsletters.

THE IMPORTANCE OF NOTHINGNESS

No discussion of graphic elements is complete without a mention of *white space*. Many beginners find white space an elusive element to master. It is elusive because it's not something you apply directly to a page. White space is all the area that's left *after* you arrange text and graphics. It's the space in your page margins, between columns, between paragraphs, between lines of type—even between letters. White space is crucial to your design because it gives your page definition and it reduces clutter. It also provides visual relief, a natural resting place for the eye.

White space subtly affects the reader's response to everything it surrounds, be it text or illustration. Because viewers are seldom aware of white space, it can create subliminal and powerful impressions. Use white space generously and you can create a feeling of openness that invites readers straight to the heart of your message.

CLIP ART SAVES TIME

Formerly more at home in a sculptor's studio than in an office, Richard Contreras is now director of corporate communications for a Seattle-based insurance company. With no background in graphic design or computer illustration—and a very busy schedule—Contreras looks for ways to add striking visuals while reducing design time. He advises time-conscious publishers to use clip art.

Clip art offers a variety of ready-made

illustrations, drawings, or scanned photo images. Clip art is readily available, but the quality of the images and artwork varies widely, so Contreras stresses reviewing art before you buy. Ask for dealer demonstrations, or contact clip-art publishers listed in computer magazines and request sample catalogs. Some clip-art packages can be printed for only noncommercial or limited use, "so you should read the fine print before you buy," Contreras says. "Check out the copyright protection notices."

Clip art is often nothing more than a simple line illustration, but you can modify it to get eye-popping results. You can resize clip art, color it, or use it to create ornamental borders. Reversed clip art—white on black rather than the normal black on white—creates photographic-negative-like effects. More and more illustration programs will even allow you to rotate clip art. If you want a piece of clip art to accompany a diagonal banner headline, for example, rotate the art to match the angle of your headline, then import the modified art into your page layout.

To make statistics more accessible and less intimidating, try building a chart with related images. Imported clip-art images of coffeepots, resized and graduated from small to large, for example, could indicate rising coffee sales.

Used properly, clip art makes your message stand out. Like any other illustration or graphic, use it wisely. Don't place too many images on a page. Also, use an image that's appropriate for your audience. Avoid plac-

ing whimsical cartoons in a formal report, for instance. (*For several clip-art suggestions, see the Desktop Publishing department on page 28 of the March 1989 issue.*)

MAKING THE MOST OF SCANNED IMAGES

In 1985, Amy Carroll Porter received her degree in English, then embarked on a technical-writing career with a start-up computer company in Tigard, Oregon. Once she arrived on the job, she found she had to work double duty as documentation writer and designer.

"I knew very little about graphic design, and I still shudder when I think about some of my first efforts," she says. "But I started to look at graphics magazines and at manuals and brochures my competition was producing. After the first year, my designs definitely got better."

Porter has returned to school to pursue an advanced degree. To help meet tuition costs, she's putting her desktop skills to work, creating manuals, newsletters, brochures, letterhead, and business cards from her home office.

One way Porter likes to add special effects to her work is by modifying optically scanned images.

On the Macintosh, you can use programs such as *Image Studio* and *PhotoMac* to retouch scanned graphics and achieve unusual effects. For example, you can make the Leaning Tower of Pisa stand up or the Mona Lisa smile. Aldus *SnapShot* is designed to perform similar tasks on the IBM. With

such image-editing programs, you can modify selected portions of a graphic (from your own scanner or the clip-art kind) and achieve full photo retouching.

Many page-layout and illustration programs let you import and modify scanned graphic files. (Keep in mind that your modifications will be made to the *entire* graphic. These programs do not let you work with selected areas.) You can adjust the lightness, contrast, and screen, apply spot colors, or change the distribution of gray shades. Altering the gray scale can convert the image to a negative, for example. Adjusting screens also produces eye-catching results. One popular effect is the "venetian blind look," in which thin white horizontal lines run across the image, often seen in corporate logos and photographs.

"If you're limited to laser printer output, scanned photos won't replace photos you traditionally paste in by hand," Porter says. "The resolution of scanned images [the number of dots per inch that creates gray-scale contrast] is too low, and you'll get grainy results. That's okay if you want an avant-garde effect, but not if you want to show off a picture of your product."

KNOW YOUR GRAPHICS, KNOW YOUR TOOLS

Advice about printing scanned photos brings up several basic, but essential, desktop design issues.

"You must be familiar with your computer, software, and printer or typesetting device," Jan Wright insists. "The more you know about your entire system, the more success you'll have producing your work."

Many designers—beginners and pros alike—create complex materials, then find they don't have enough memory to reproduce them on their own printers. Others miss crucial deadlines because they use graphics or scanned photos that take many hours longer to print than expected "Always work with the printed results in mind," Wright says, "or you'll waste a lot of time." (For more information on printer-related issues, see the box "It Looks Great On-Screen, But Will It Print?")

Before you work with imported clip art, scanned photos, and other graphics, be sure to acquaint yourself with *graphic file formats*. Illustration programs save files to disk in a variety of formats. Each format is designated with an abbreviated name (TIF,

PCX, EPS, and others). To work successfully with imported graphic files, you must learn which formats your computer, page-layout software, and printer will accept. Check your computer and software instructions for necessary details on graphic file-format characteristics and compatibility. (For further details, see the box "What You Need to Know About Graphic File Formats.")

DEVELOPING YOUR OWN DESIGN STYLE

"As you grow more familiar with your system and software, start to develop a designer's point of view," Wright says. Wright believes all people, artists and non-artists, have the ability to ask questions and to define their own tastes. "When I find something that looks good and is easy to read, I ask why. What makes it work?"

You can start by examining the business materials you receive each day. Which newsletters or brochures attract your eye? What makes you feel positive about them? Is it the feel of the paper, a bright color, a provocative photograph—or some combination of the three? Books, magazines, audiotapes, and videos are helpful guides, too. (For extra guidance, see Steve Morgenstern's "Help!" parts I and II in the October and November 1989 issues.)

Knowing what you like helps you develop your own perspective and style. Next you should learn more about the mechanics of graphic design. Handbooks such as *The Pocket Pal*, *Graphics Master*, and *Desktop Publishing by Design* offer helpful information on production, printing, and design.

If you have no formal graphic design training, don't worry. Most nondesigners have learned to create winning visuals by observing the competition, then acquiring the technical and aesthetic skills necessary to produce successful business designs.

As you do your initial research, look for materials that are addressed to a similar audience and that have a history of tangible results. Look for evidence of increased sales response or improved customer relations. Then learn how to get your hardware and software up and running. Be aware of the printing and typesetting options available to you. As you work with your system, acquire a familiarity with basic design techniques and standards.

TRY AGAIN UNTIL IT'S RIGHT

Once you've mastered the basics, there's just one more mandate: Experiment! As Richard Contreras says, "Some people will recommend sticking with a few typefaces or type sizes, but that seems to defeat the purpose of desktop publishing. When I have the time, I love to experiment, and I think that's what is great about this technology. You can design a page, print it, then try again until you get it right." ■

IT LOOKS GREAT ON-SCREEN, BUT WILL IT PRINT?

As you design your publication, always keep in mind how much (or how little) your printer or typesetter can do. Here are six important issues to remember:

1. Software compatibility. Is your desktop-publishing software guaranteed to work with your printer? Check the software's instructions for printing restrictions that may limit your design options.

2. Memory. Does your printer have enough memory to reproduce scanned graphics or complex drawings? Scanned graphics and complex PostScript-based drawings, for example, require lots of printer memory and can take a long time to print—good things to remember if you're working with tight deadlines.

3. Resolution. How many dots per inch (dpi) does your printer use to reproduce graphic images? If your business materials must have a highly polished, professional look, you'll need a minimum resolution of 1,270 dpi. On the other hand, a 300-dpi resolution is just fine for most fliers and newsletters (most lasers achieve this resolution). If your printer's resolution is less than 300 dpi, use its output for proofing and corrections, then take your completed files to a service bureau for camera-ready art (art ready for professional printing).

4. Page-description language. A page-description language is the set of instructions that tells your printer how and where to place text and graphics on your page. Does your printer use PostScript, QuickDraw, PCL, or some other page-description language? Macintosh users typically work with PostScript or QuickDraw, while MS-DOS-based designers work with PCL or PostScript. Each language has its

own printing characteristics. For example, PCL printers (even at 300 dpi) aren't as good at rendering fine lines as PostScript printers. Also, most service bureaus still use PostScript-based image-setting devices. If you require their services, PostScript compatibility may be important to you.

5. Paper. What paper sizes can the printer handle? Can it print both horizontal and vertical pages? Paper flexibility can be important when designing promotional materials because nonstandard page dimensions help attract attention.

6. Font availability. Have you seen a really great type effect you'd like to try in your next publication? Before you get too excited, find out whether or not that specific typeface and font is already resident in your system and printer. If not, find out if the font can be downloaded to your printer.

Downloadable fonts are typefaces you can purchase and install on your computer's hard disk. (Adobe, Bitstream, and AGFA CompuGraphic are major font vendors. Also, high-end layout programs such as *Ventura Publisher*, *QuarkXPress*, and *PageMaker* typically include downloadable fonts.) When you select a downloadable font via a desktop-publishing program, that font is summoned from your hard-disk drive and transmitted to your printer.

Although you don't need a vast number of fonts to create attractive business materials, it's good to have a representative selection of the major serif and sans-serif typefaces. For example, PostScript-equipped laser printers include Times, Helvetica, Palatino, and Avant Garde. You'll discover the wide range of moods these fonts convey—and you'll have fun mixing and matching them in your designs.

Laser Printers

A Question-and-Answer Guide to Choosing a PostScript or HP-Compatible Printer

Plus:

Reviews of Six New Printers and an Update on Apple's LaserWriters

BY HENRY F. BEECHHOLD



The outstanding Hewlett-Packard LaserJet Series IIP offers rotatable fonts and a hefty duty cycle—and you should be able to find it for under \$1,000.

Laser printers are fast and quiet, and they produce high-quality print. These three attributes will add spark and sparkle to your business. Their speed saves you time, since you don't have to wait while your dot-matrix or daisy-wheel printer slowly churns out page after page. Their quiet allows you to conduct telephone conversations while the printer is working. Finally, laser-printed text and graphics look enough like they've been typeset to give your work a really professional look.

Until recently, many prospective purchasers considered laser printers to be primarily desktop-publishing tools and put off buying them because of their high cost. Today, new models with significantly lower prices are hitting the market. Some mail-order houses

and retailers are discounting full-featured laser printers (such as the Toshiba PageLaser6 and the Epson EPL-6000) down to around \$1,300. And the Hewlett-Packard LaserJet Series IIP laser printer is discounted to around \$1,000. These printers are slightly slower than more expensive models, but are rich in features.

There are two main types of laser printers: PostScript and non-PostScript. PostScript printers, such as the Apple LaserWriter IINT, are sophisticated (and expensive) printers that come equipped with a wide variety of fonts, making them ideal for professional publishing tasks. Since all Macintosh software supports PostScript, Macintosh users should primarily consider PostScript printers. For Mac owners, another option is a printer such as the Apple LaserWriter IISC that is supported by the Macintosh's built-in QuickDraw routines.

Non-PostScript printers, typified by the

Hewlett-Packard LaserJet Series II models, are equipped with far fewer fonts than PostScript printers and are best suited for general business correspondence. A wide range of fonts, however, can be added for any application up to and including professional publishing. Most new MS-DOS software supports HP printers (or will with software upgrades), so MS-DOS users are certainly safe with HP-compatible printers.

However, more and more MS-DOS software also supports PostScript printers, and more and more printers support both modes. Thus, it's possible that an MS-DOS user would want to buy a dual-purpose printer.

To give you a better understanding of these complex machines and help you decide whether or not you need PostScript, we've asked and answered several basic questions. In addition, we've reviewed six new laser printers and prepared a chart with specifications for 22 other popular models.

Q. What tasks are lasers best suited for?

A. Since laser type looks so sharp and black on a page, laser printers work well for any kind of business correspondence. They can print different sizes of text and clean graphics, so they are superb for printing newsletters or other documents that combine the two. And since they are considerably faster than dot-matrix printers, lasers are well suited for large printing jobs—up to a point. Laser printers are rated for specific work loads; the manufacturer's recommended duty cycle (usually 3,000 or more pages per month) indicates how hard you can work the machine.

Q. How fast are laser printers?

A. When printing straight text, laser printers produce 4 or more pages per minute. When printing graphics, the rate is much slower and depends on the complexity of the graphics. By comparison, a number of popular 24-pin dot-matrix printers will grind out text in near-letter-quality mode at about 1.5 pages per minute.

Q. How expensive are laser printers?

A. Prices for black-and-white laser printers range from about \$1,000 to \$7,000. (Color lasers cost \$10,000 and up.) In general, price is determined by speed and memory. PostScript printers cost about \$1,500 more than HP compatibles.

Q. How close to typeset quality is laser print?

A. The current standard resolution is 300 by 300 dots per inch (dpi), or 90,000 dots per square inch. Professional typesetting machines use a matrix of 1,200 by 1,200 (or higher), or at least 1,440,000 dots per square inch. However, when printing text in standard sizes—say, 10 or 12 points—the difference in quality is barely perceptible. When printing much smaller or larger type, or graphics, the discrepancy is much more apparent.

Q. Will all software work with laser printers?

A. In most cases, replacing your existing printer with a laser printer requires no more than switching the cable from one to the other and reconfiguring your software. Let's say, for example, that you're now using *WordPerfect 5.0* with a dot-matrix printer. Just run *WordPerfect's* printer setup routine and select the appropriate printer. If the package has a generic PostScript driver or a specific driver for your printer, fine. If not, select a substitute: For HP compatibles, that would be HP LaserJet; for PostScript, it would probably be Apple LaserWriter.

Obviously, if you're using software written before the days of laser printers, it will be harder to make the changeover. However, some lasers emulate popular impact printers, so you can configure your software for that printer but use a laser printer. For instance, the Toshiba PageLaser6 emulates the IBM ProPrinter.

If the software doesn't have a driver for your laser printer, there are programs that link the output of the application software and the printer and act as external laser-

printer drivers. Some of these are, in fact, full-scale text-formatting programs (for example, *PowerText Formatter* and *HighStyle*) that will accept plain ASCII input, which almost all application software is capable of producing. Perhaps the best plan, however, is simply to buy updated versions of the software you already use.

Q. How many fonts do I get?

A. All laser printers come with a package of resident typefaces and fonts. A typeface is a design, such as Courier, Times Roman, or Garamond. A font is a given typeface in a given size and style, such as 9-point Times Roman normal, the text you're reading here.

The number of resident fonts varies tremendously. HP-compatible printers generally come with 10 or fewer fonts. PostScript printers come with 35 or 39 type styles that can be printed out in a wide range of sizes. The result is hundreds of available fonts.

A certain printer may be advertised as offering some large number of fonts, but if you look closely you'll see that these native fonts are variations on only a few typefaces—say, 10-point and 12-point Courier in normal, bold, and italic styles; and 8-point and 10-point Times Roman in normal, bold, and italic. That adds up to 12 fonts.

Q. What are the characteristics of PostScript printers?

APPLE'S LASERWRITER PRINTERS:

UPDATE ON THE PIONEER POSTSCRIPT PRINTERS

Apple's LaserWriter printers were the first PostScript printers, and they helped establish the desktop-publishing market. For Macintosh users, the Apple LaserWriter is the standard against which other laser printers are measured. But even MS-DOS users can use an Apple LaserWriter now that many DOS packages support PostScript, and some LaserWriters have an RS-232C serial interface.

Apple makes three LaserWriters; each prints text at 8 pages per minute. The LaserWriter IISC (\$2,799) is *not* a PostScript printer; it leaves all page-description tasks to the Macintosh's Quickdraw graphic routines. It comes with only four fonts (although others can be added).

The LaserWriter IINT (\$4,999) is a PostScript printer that comes with 2MB of memory and 11 resident font families. The IINT connects to the LocalTalk network and can be shared by up to 31 users. An RS-232C serial port is also included on the back of the printer, providing easy connection to MS-DOS computers. For MS-DOS use, the IINT emulates the Diablo 630, but not the HP LaserJet.

The LaserWriter IINTX (\$6,999) is the fastest printer in the LaserWriter family when it comes to graphic output. It comes standard with 2MB of memory, expandable to 12MB and 1MB of ROM. It includes an external SCSI port, which means users can install one or more external hard-disk drives to the printer for more fonts and speed. And it emulates the HP LaserJet.

A. PostScript is a page-description programming language (developed by Adobe Systems) that provides precise control over virtually every detail of a printed page. All Mac software, and some new DOS software, especially desktop-publishing and word-processing programs, supports PostScript printers. The software sends a description of a page (written in the PostScript language) to the printer, which translates that description onto paper.

The main advantage of PostScript printers is that they come equipped with a large number of scalable typefaces. Users can specify type in any of these faces and styles (Roman, italic, bold, and bold italic), and almost any size; PostScript will create the characters on the fly during the printing process. All PostScript printers come with Adobe's standard starter set of 11 typefaces that make up 35 styles. In addition, Adobe has developed a huge library of typefaces that can be purchased separately.

Second, PostScript works with some professional typesetting equipment. A project designed in PostScript can be proofed on a laser printer and then sent to a PostScript typesetter for final output. The proof and the final will be identical, except that the typeset page will have higher resolution.

PostScript printers cost at least \$1,500 more than HP-compatible printers for several reasons: The PostScript language "interpreter" resides on an expensive circuit board inside PostScript printers; the printer manufacturer pays a licensing fee to Adobe Systems; and PostScript printers generally come with more memory.

Finally, because PostScript printers create fonts from scratch each time they're needed, they often take longer than HP-compatible printers to print out a page of text.

Q. How much memory do I need?

A. The 512K of memory supplied as standard with many HP-compatible printers is ample for standard text printing. However, a printer with 1MB or more of memory will use the extra memory as a print buffer, allowing you to regain control of your computer well before the printing process is finished. Extra memory costs about \$300 to \$400 per megabyte.

For graphics-intensive printing, you need more memory. A printer with only 512K will not produce full-page graphics at 300 dpi. You'll have to coarsen the resolution to 150 dpi or settle for no more than half-page high-resolution graphics. So if you plan on desktop publishing or extensive graphics printing, you'll need at least 1MB of memory, and preferably 2MB.

PostScript printing, however, requires much more memory, since the printer is actually creating fonts as it prints, rather than just taking them from ROM. Most PostScript printers come with 2MB of memory, and can hold 4MB or more.

Q. How do I add fonts to a laser printer?

A. There are two traditional ways to add

fonts to an HP-type printer. Downloadable "soft fonts" must be loaded from disk into the printer's memory every time they are used. Font cartridges have the information stored on ROM chips—plug the cartridge into the printer and the fonts are accessible. They don't use up any of the printer's memory.

Q. What is scaling or rotating a font?

A. Let's take scaling first. A recent development in fontware is software that lets users generate fonts in a variety of styles and sizes from basic typeface descriptions. In concept, this is very much like PostScript, except that the fonts created this way are stored on disk;

they don't have to be recreated every time they're needed. Bitstream *Fontware* (the most notable scaling software) for versions of Times Roman and Helvetica is included with many word-processing and desktop-publishing packages.

Rotating has to do with the orientation of letters on a page. To print across the width of a page (landscape mode) on a laser printer, you need letters that print sideways, since you can't feed the paper in sideways. Some HP-compatible printers and all PostScript printers can rotate basic font information 90 degrees for landscape printing. Printers that lack this capability require sep-

arate landscape fonts.

Q. Do lasers require special paper?

A. There is special laser-printing paper, although it doesn't offer many advantages to most users. But laser printers do require individual sheets of copy or bond paper (20- to 24-pound) and can't print continuous forms. And since laser printers are not impact printers, you cannot print multipart forms (carbon copies) of receipts, invoices, and other paperwork.

Some laser printers offer only a single paper cassette, holding about 150 sheets. More sophisticated printers offer double cassettes, holding as many as 250 sheets

BUYER'S GUIDE TO LASER PRINTERS

The following laser printers are sold by reputable companies and are widely available. The chart breaks into five sections: HP-compatibles, PostScript, HP/PostScript, QuickDraw, and Canon. All prices listed here are suggested retail prices; many dealers offer discounts as much as 40 percent off the list price.

Apple and Hewlett-Packard together hold a 75 percent share of the laser-printer market, according to CAP International, and NEC, Panasonic, and QMS also hold substantial market shares.

Company/Model	Suggested Retail Price	Memory: Standard/Maximum	Maximum Print Speed (PPM)	Duty Cycle (pages per month)	Resident Fonts ¹	Font Cartridge slot(s)	Standard Interfaces	Maximum # of Sheets per Cassette/Tray	Warranty (months)
HP-compatibles									
ALPS LPX600	\$2,175	512K/2MB	6	3,000	2	1	P, S	100	12
Brother HL-8e	\$2,695	1MB/3MB	8	3,000	30	1	P, S	200	12
C.Itoh LIPS II	\$3,545	512K/2MB	10	15,000	6	2	P, S	250	12
Epson EPL-6000	\$1,899	512K/4.5MB	6	3,000	6	2	P, S	150	12
HP LaserJet Series IIP	\$1,495	512K/4.5MB	4	7,500	14	1	P, S	50	12
HP LaserJet Series II	\$2,695	512K/4.5MB	8	12,000	6	2	P, S	200	12
HP LaserJet Series IID ²	\$4,295	640K/4.6MB	8	16,000	24	2	P, S	200 (2 trays)	12
IBM LaserPrinter	\$2,595	512K/3.5MB	10	20,000	10	2	P or S	200	12
NEC Silentwriter2 260	\$2,695	1MB/4MB	8	5,000	8	2	P, S	200	12 (90 days on-site)
Packard Bell PB9500	\$2,195	1.5MB/4.5MB	6	4,000	6	2	P, S	150	12
Panasonic KX-P4420	\$1,895	512K/4.5MB	8	3,000	22	2	P	250	12
Panasonic LaserPartner	\$2,595	512K/1.5MB	11	5,000	22	1	P, S	250 (2 trays)	12
Ricoh PC Laser 6000	\$2,694	1MB/2MB	6	3,000	8	1	P, S	150	12
Sharp JX-9500	\$1,995	396K/2MB	6	3,000	2	2	P, S	250	12
Star Micronics LaserPrinter 8 II	\$2,799	1MB/4MB	8	4,000	4	2	P, S	200	12
Toshiba PageLaser6	\$1,899	512K/4.5MB	6	4,000	8	2	P, S	150	12
Toshiba PageLaser12	\$3,799	512K/2MB	12	25,000	3	3	P, S	250	12
PostScript									
Apple LaserWriter IINT	\$4,999	2MB	8	5,000	35	N/A	LT, S	200	3
Qume CrystalPrint Publisher Page	\$4,499	3MB	6	5,000	39	N/A	LT, P, S	100	12, or 3 on-site
HP/PostScript									
Apple LaserWriter IINTX	\$6,999	2MB/12MB	8	5,000	35	N/A	LT, P, S	200	3
Brother HL-8PS	\$4,495	2MB/6MB	8	3,000	35	1	LT, P, S	200	12
Fujitsu RX7100PS	\$4,495	2MB	5	3,000	35	3	LT, P, S	150 (2 trays)	12 (45 days on-site)
NEC Silentwriter2 290	\$4,495	2MB/4MB	8	5,000	35	N/A	LT, P, S	200	12 (90 days on-site)
QMS/PS-810	\$4,995	2MB/3MB	8	5,000	35	N/A	LT, P, S	200	3
Ricoh PC Laser 6000/PS	\$4,495	2MB/4MB	6	3,000	35	2	LT, P, S	150	12 (90 days on-site)
QuickDraw									
Apple LaserWriter IISC	\$2,799	1MB	8	5,000	24	N/A	LT,	200	3
Canon									
Canon LBP-4	\$1,545	512K/4.5MB	4	7,500	17	2	P, S	50	12
Canon LBP-8 Mark III	\$2,995	1.5MB/4.5MB	8	5,000	17	2	P, S	200	12

Key: ¹Includes both built-in fonts and font cartridge; ²Capable of automatically printing on both sides of a page; N/A = Not available; LT = LocalTalk (formerly AppleTalk); PPM = Pages per minute; P = parallel; S = serial.

MANUFACTURERS

ALPS (408) 432-6000, (800) 825-2577; Apple (408) 996-1010, (800) 538-9696; Brother (201) 981-0300, (800) 284-4357; C.Itoh (714) 660-1421, (800) 347-2484; Canon (516) 488-6700, (800) 423-2366; Epson (213) 539-9140, (800) 922-8911; Fujitsu (408) 432-1300, (800) 626-4686; HP (415) 857-1501, (800) 752-0900; IBM (800) 426-2468; NEC (508) 264-8000, (800) 632-4636; Packard Bell (818) 773-4400, (800) 733-4422; Panasonic (201) 348-7686; QMS (205) 633-7223, (800) 523-2696; Qume (408) 942-4000, (800) 223-2479; Ricoh (408) 432-8800, (800) 447-4264; Sharp (201) 529-9500, (800) 237-4277; Star Micronics (212) 986-6770, (800) 447-4700; Toshiba (714) 583-3000, (800) 334-3445.

each. Most laser printers output pages face-down, which means that they come out in the correct order. Most offer an alternative, a straighter paper path for envelopes and thick paper stock that outputs pages face-up—in reverse order.

Q. Can lasers print envelopes?

A. Yes. Most lasers have a manual feed slot, often with an adjustable guide, that allows you to insert single sheets of varying widths. This is fine for the occasional envelope. For high-volume envelope printing, you'll need a printer with an automatic envelope feeder, a fairly costly extra, when available.

Q. Are laser printers expensive to operate?

A. Laser printers cost more to operate than impact printers, which require little beyond an occasional new ribbon. With lasers, you need to replenish the toner (powdered ink) when it runs out and renew the photosensitive drum on which the printed image is created (as with a photocopier).

In some models, notably the Hewlett-Packard lasers and those built around the same engine (machinery), the toner and drum are in the same replaceable cartridge. With other lasers, toner and drum are replaced separately. Typical life of a toner supply is 5,000 pages; cost averages \$50. Drums generally last at least twice that long and cost twice as much to replace. On the whole, the single-cartridge solution is more convenient and cleaner, but more costly.

LASERWRITER UPGRADES

All LaserWriter printers share the same chassis and look identical from the front. Upgrading from the IISC to the IINT or NTX is a simple matter of removing one board and installing another. It costs \$2,699 to upgrade from a IISC to a IINT; \$4,699 to upgrade from a IISC to a IINTX; and \$2,899 from a IINT to a IINTX.

Apple recommends that only an authorized Apple dealer install the upgrade board in your printer. We believe you can install an upgrade yourself if you are careful. These boards include circuitry that is extremely sensitive and easily damaged by static electricity, and if you damage the board you void the warranty. If you should choose to undertake it, installation is quick and easy and takes less than five minutes. Simply remove two screws and unplug one board, then plug in a new one.

Installing the rest of the printer components is just as easy. Following the instructions in the clearly written manual, we installed the toner cartridge, cleaning pad, and paper cassette in a

matter of minutes.

Software installation is also simple. Copy the LaserWriter (or LaserWriter SC) and LaserWriter Prep files to the System folder and select the appropriate LaserWriter printer from the Chooser. Then copy any and all fonts that you wish to use from the fonts disk to the System Folder using the Font/DA Mover.

After selecting the correct printer from the Chooser, you're ready to go. There's no real difference in using the printers. The same commands are used, the same printer lights flash on and off, and the same sounds are made. The real difference lies in the quality of the output. There is a marked difference, in both text and graphics quality, between the IISC and the IINT or IINTX. Graphics are sharper and better defined on the IINT and IINTX, and text is darker and more pleasing to the eye. The IISC provides good quality output and performs very well—it just doesn't offer the same level of quality as a PostScript printer.

Q. How do I make a buying decision?

A. Macintosh users should look at PostScript (or QuickDraw) printers and base their buying decision on the amount of memory and speed the printer comes with. People who plan on printing a lot of graphics should opt for more speed and memory.

MS-DOS users should look at HP-compatible printers and base their decision on speed, memory, the number of resident

fonts, and the cost of the fontware they'd like to add. People who plan on publishing newsletters, brochures, ads, or any other documents where variety of type styles and sizes is important, or want compatibility with typesetting equipment, should get a PostScript printer—preferably one with HP emulation. Otherwise, they can almost certainly save money with an HP-compatible and Bitstream Fontware.

Reviews of Three New Low-Cost HP-Compatible Printers

Epson EPL-6000 Laser Printer

SUGGESTED RETAIL PRICE: \$1,899

RATING: ★ ★ ★

Epson, the dot-matrix market leader, pays homage to a different leader in the laser market. The Epson EPL-6000 offers HP emulation as standard, and Epson FX emulation as a \$229 option.

The Epson EPL-6000 uses a different printing engine than the HP line, but the print quality is equally good. Just install your software to run an HP LaserJet II and the Epson will obey. The print engine is the same as the one used in the Toshiba PageLaser6, and the two printers look nearly identical. However, the Epson's recommended duty cycle is only 3,000 pages per month, compared with 4,000 for the Toshiba.

The EPL-6000's chunky manual adequately covers all the basics of printer setup and use. It's not in the same league as the HP manuals, but what is?



Perhaps the Epson's most distinctive feature is the *UltraScript PC* software that makes the printer PostScript compatible. *UltraScript PC* (Imagen Corp.; \$195) is written specifically for the Epson EPL-6000 and won't work with other laser printers.

PROS:

Excellent print quality; inexpensive PostScript software add-on

CONS:

Limited number of built-in fonts; small-capacity paper tray



Toshiba PageLaser6

SUGGESTED RETAIL PRICE: \$1,899

RATING: ★ ★ ★

The PageLaser6 is essentially the same printer as the Epson EPL-6000, as both use

the same print engine (manufactured by Tokyo Electric Company, in which Toshiba holds a 50-percent stake). Anyone who has used Toshiba photocopiers knows that Toshiba's print quality is superb. In addition,

the machines just keep on producing. This printer's duty cycle is a respectable 4,000 pages per month.

Like most of the manuals for printers in this class, the PageLaser6 manual is well illustrated and comprehensible.

A major plus of this printer is that it rotates characters to print in landscape as well as portrait mode. All in all, the PageLaser6 is a sturdy, reliable piece of equipment that hums along, consistently producing handsome text and graphics.

PROS:

Excellent print quality; emulates IBM ProPrinter; rotates fonts

CONS:

Limited number of built-in fonts; small-capacity paper tray

Hewlett-Packard LaserJet IIP

SUGGESTED RETAIL PRICE: \$1,495

RATING: ★ ★ ★ ★

The HP LaserJet Series IIP, which prints at half the speed of other LaserJet Series II models (4 pages per minute [ppm]), sells at half the cost. Discounted, the IIP should sell for about \$1,000, putting HP-quality laser printing within reach of modest budgets.

This "BabyJet" HP looks nothing like the LaserJet II, but its print quality is just as good. And it automatically rotates characters to print in landscape or portrait mode. As far as speed is concerned, I find little discernible difference between the IIP and faster printers when I print out single copies of single-page documents. When printing longer text files or graphics, of course, the difference in speed is significant.

The two manuals and Quickstart booklet are typical of HP's high-quality documentation. Indeed, the main manual should serve as the model of a modern user manual.

All you need to replace in this machine is the toner-drum cartridge, a procedure even easier than that required for the LaserJet II. Just pop down the front panel and insert the



cartridge. In contrast to most (perhaps all) other laser printers, the IIP uses a drop-front design rather than a clamshell design in which the top opens up. And the printer is a true workhorse, with a duty cycle of 7,500 pages per month, more than double many in its class.

With PostScript, memory, font cartridge, and paper-tray add-ons, the IIP is a growth machine in every respect except speed. (Of course, adding all these extras will more than double the cost.) Unless speed is paramount (and remember that it's still at least

twice as fast as a dot-matrix printer), this laser looks like the pick of the litter, but only if you buy it at the discounted price.

PROS:

Low cost; wide range of expansion options; ease of toner replacement; compact size; long duty cycle; rotates fonts

CONS:

Slow output, unsuitable for production printing or graphics; limited stock of native fonts; high cost of toner cartridge; limited-capacity paper tray

Editor's Note: Canon, the manufacturer of the engines used by HP in its line of laser printers, has announced its own 4-ppm printer. The Canon LBP-4 lists for \$1,545. Externally, there is virtually no difference between the HP and Canon units. But for just \$50 more, the Canon LBP-4 provides an inventory of built-in, scalable fonts. However, since the Canon printer does not include HP emulation, your software must specifically support the Canon if you are to use it. Unfortunately, the Canon was not available for review when we prepared this article.

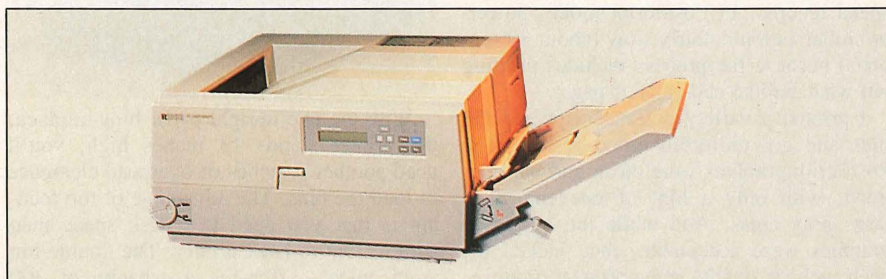
Reviews of Three New PostScript Printers

Ricoh PC Laser 6000/PS

SUGGESTED RETAIL PRICE: \$4,495

RATING: ★ ★ ★

A venerable name in optics and electronics, Ricoh not only manufactures laser printers under the Ricoh name, but sells printer engines to a number of other manufacturers. The PC Laser 6000/PS balances cost, features, and performance. For a PostScript printer with HP emulation and 2MB of



memory, the 6000/PS's street price of about \$2,900 is a real bargain.

I printed a *Ventura* document using both PostScript and the HP LaserJet emulation. In both cases, the results were clean and sharp. If you wish, you can get a printout telling you which mode is operational each time you power up the printer; the PostScript printout lists the entire font inventory.

To open the printer for toner and drum

replacement and for removing jammed paper (no occurrences during tests), you merely pop the clamshell lid as you do with most laser printers. A drawback to the Ricoh is its relatively short duty cycle of 3,000 pages per month.

If you want a PostScript printer, this compact unit should be at or near the top of your list. The price and performance are both very good.

PROS:

Parallel, serial, and LocalTalk interfaces; HP emulation; excellent print quality; reasonable cost (at discount); 2MB memory standard; moderate toner cost; 90-day on-site service

CONS:

Limited-capacity paper tray; relatively short duty cycle

Qume CrystalPrint Publisher Page

SUGGESTED RETAIL PRICE: \$4,499

RATING: ★ ★

Rather than a standard laser-printing system, Qume uses the liquid-crystal-shutter imaging technology it used to build its reputation for photocopiers. But the output from this type of printer looks no different from that of the more common laser units.

I found the CrystalPrint Publisher Page to be a good performer, turning out clear, sharp renderings of complex PostScript graphics at a reasonable speed. But it's exclusively a PostScript printer; since you cannot add printer emulations, forget about all the software that requires an HP LaserJet (or some other non-PostScript printer).

The printer's paper-handling limitations may not be a problem for normal production printing, but I miss the convenience of a manual feed—especially for envelopes—and the options of faceup and facedown output. At the very least, I would like a paper tray capable of holding more than 100 sheets.

The user's manual is handsomely printed and extensively illustrated, yet it skimps on detail. A large section concerns the supplied Macintosh utility software. This is fine if you're using a Macintosh, of course, but for



PC users, you get little specific guidance beyond how to connect the printer cable.

What it does, it does well. However, the CrystalPrint Publisher Page is certainly the wrong choice if you want a general-purpose office printer.

PROS:

Excellent print quality; large (3MB) memo-

ry; three interfaces (parallel, serial, and LocalTalk); relatively fast PostScript graphics output; Macintosh printer utility software

CONS:

Limited paper-handling facilities (small-capacity paper tray, no envelope or manual feed); no provision for expanding memory; no emulations; potentially messy toner installation

Fujitsu RX7100PS

SUGGESTED RETAIL PRICE: \$4,495

RATING: ★ ★

Until recently, a large part of Fujitsu's American marketing effort was aimed at original equipment manufacturers (OEMs), but increasingly, the company is reaching out to consumers. Typically, Fujitsu products are solidly built, feature-filled, and reliable. The RX7100PS PostScript printer, with HP emulation, is no exception.

At 5 ppm, the RX7100PS will set no speed records. In PostScript mode, power-up initialization is fairly slow (about 80 seconds) because the process includes printing out what Fujitsu calls a start page.

I printed a variety of PostScript and HP files and got uniformly good results. The PostScript graphics were clean and well defined, with only a hint of unevenness in large gray areas. And while the blacks in graphics were acceptable, they lacked the deep, velvety quality some printers produce.



With the two upright paper bins in place, the printer stands 13 inches high; you'll need another 6 inches of overhead clearance to load the bins. The advantage of top feeding is that you need less desk space than with a front-to-back printer. The double-bin arrangement—affording a capacity of 300

sheets—lets you keep the printer working without interruption and switch quickly back and forth between two types of paper.

The loose-leaf manual offers extensive information, which is clearly explained and well illustrated.

The lack of memory expandability for the 2MB version might be a significant limitation for certain graphics-intensive applications. Otherwise, ruggedness, print quality, and product support make the RX7100PS a compelling choice.

PROS:

Excellent print quality; rugged construction; easy-to-install cartridge unit; HP LaserJet II emulation; four interfaces; dual paper bins; excellent customer support

CONS:

Lack of memory expansion; costly cartridge unit (\$185, plus \$15 for ozone filter); costly font cartridges (\$145 to \$350 each); relatively slow output rate for production printing; loud paper-handling mechanism ■

Business Diary, Part I: BY COREY SANDLER



*One Person's Account
Of the First Steps in
Starting a New Business*

Leaving the Corporation

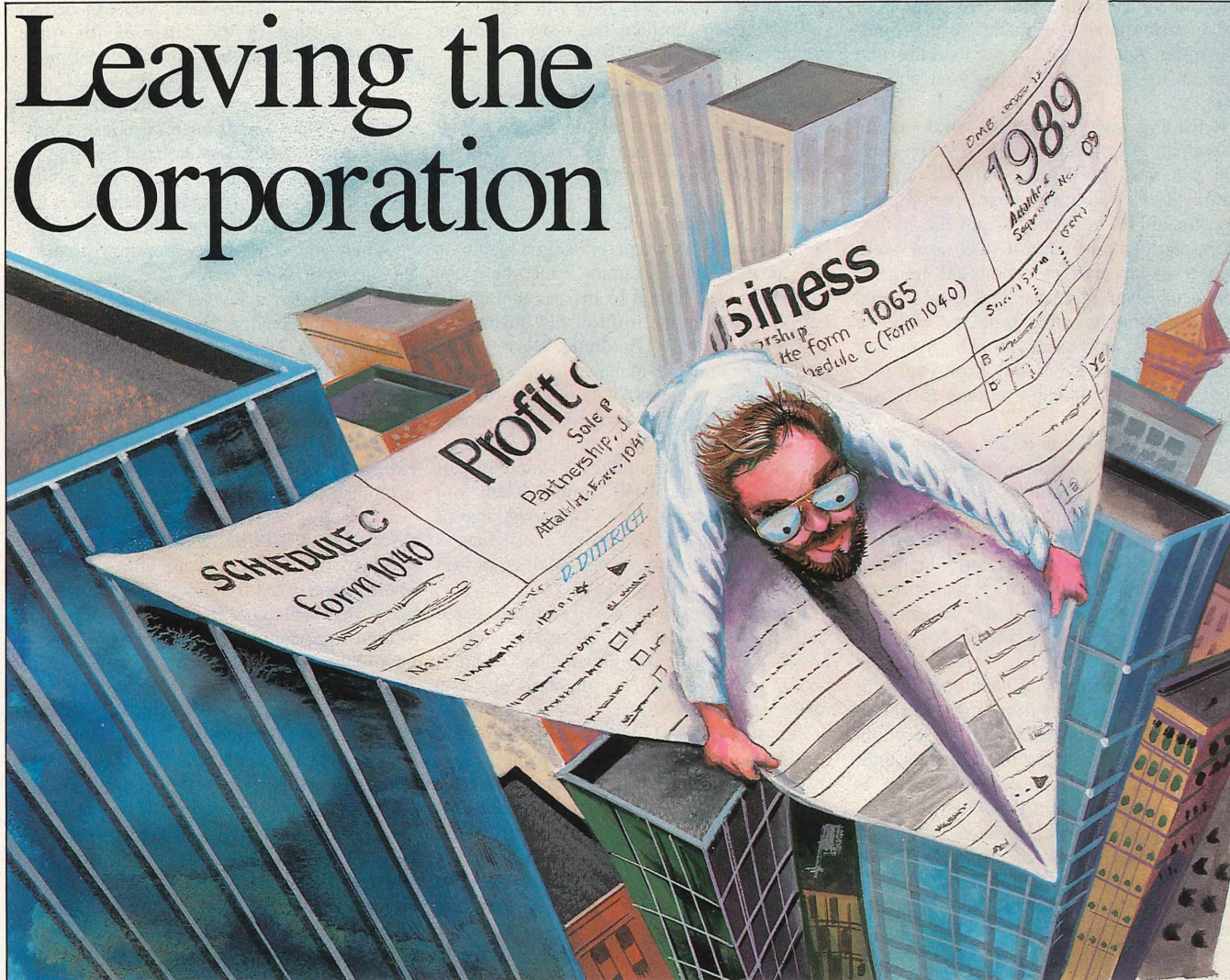


ILLUSTRATION BY DENNIS DITTRICH

I left my salaried job because I had grown weary of the endless stream of paperwork across my desk. I wanted to be creative, not a paper shuffler.

Now, I'm my own boss in my own business in my own office in my own home and I'm making my own decisions. About what? Well, to begin with, there's this big stack of papers to plow through...

I'm not complaining. I am well on my way to fulfilling a lifelong dream of independence. However, I have quickly discovered that life in a big business did not fully prepare me for life in a small one.

For the past 20 years, I have been a coddled employee of one large corporation after another. Each had personnel officers

and benefits managers, lawyers and accountants, and shipping clerks.

Health plans were handed to me as a benefit; now I have to shop around and design them myself. Tax withholding was figured out for me, unlike the quarterly tax-

es I now pay against my own estimates. And I just did my assigned work, while someone else sent out the bills, collected the payments, and balanced the checkbook.

In January a year ago, I walked away from a high-paying, high-stress job as editor in chief of a major national trade newspaper. I moved to an office I had added to our semirural Massachusetts home to concentrate on writing books and magazine articles and consulting. The lessons of my particular business—and particularly my shift from employee to independent—should apply to most professionals, including consultants, accountants, sales representatives, and publicists.

PENSION FUNDS AND BONUSES

The first set of decisions I faced came as I prepared to depart the warm cocoon of my salaried job. When you leave a company

BUSINESS DIARY TOPICS

Business Diary is a series that tracks one person's shift from a corporate employee to an independent business person.

January

Business Diary, Part I:
Leaving the Corporation

February

Business Diary, Part II:
A Web of Insurance

March

Business Diary, Part III:
Keeping Business Records

COREY SANDLER is president of Word Association, Inc., an editorial services company based in Holliston, Massachusetts.

where you have a pension or a 401(K) retirement fund, you have to decide what to do with the funds in the account. Unless you are fully vested (in most companies, full vesting comes after five years of full-time employment), you actually own only a portion of the contributions made by the company on your behalf, plus 100 percent of any contributions you made to the fund. Assuming you do not intend to retire and draw on the funds as income, your choices include:

- Rolling over the pension funds into an individual retirement account (IRA), a decision that must be made within 60 days of lump-sum distribution of your pension plan. As with all IRAs, you can put the money into a certificate of deposit (CD) at a bank, open a money-market or mutual-fund account, or even purchase real estate, gold coins, or other tangible property with the proceeds. In any case, though, you will have to segregate the money from your personal funds and maintain records to satisfy the IRS.

- Taking the portion of the pension funds that belong to you as income when you leave the company. Unless you are in dire need of the money, this is a shortsighted and rather wasteful use of your retirement money. The funds that are converted to personal use will be taxed at your personal income-tax rate (up to 33 percent under current law) plus a 10 percent penalty for early withdrawal.

- Freezing money you have contributed, as well as the vested portion of funds put in by your employer, and leaving the account in place to draw interest or dividends until you are eligible to retire. This option is available only in certain types of funds.

My former employer insisted I take my pension money out of the fund; I put the proceeds into a segregated IRA.

As you leave the corporation, you should consider asking for a special payout plan for outstanding commissions, royalties, bonuses, or vacation pay. I asked that my 1988 year-end bonus be paid in 1989. I wanted to defer paying taxes for a year and build income in the first year of my new business to list on bank and credit forms.

"HE DOESN'T WORK HERE ANYMORE"

I intend to build my company on the contacts I have made over the course of my career, which is probably the case with the vast majority of people who leave corporations to start their own businesses. I want potential clients to know that they can still reach me. I can think of nothing worse than having an important contact call my former company only to hear, "Who? He doesn't work here anymore." To many people that means, "He's been fired."

Tell your former coworkers (and the receptionist and personnel department) what to say when they field your telephone calls. The goal here is to separate personal calls

from those that should be directed to your successor. I made up a short statement and distributed it to receptionists and other staff members. Part of it read: "Corey Sandler has set up his own company. I have his phone number and address here. Do you need to speak to him, or is this something that the new editor can help you with?"

I personally notified the most important contacts about my new business.

ESTABLISHING YOUR OWN IDENTITY

Once I had tied up all the loose ends of my former job, my next decisions involved establishing my company's identity and business classification.

I discovered that the help of a good accountant and tax preparer is invaluable in the process of planning income and expenses. So I turned to my accountant for help in planning the form of my business.

Robert Klein, a Bardonia, New York, accountant and the manager of my tax returns for many years, laid out the options and then gently steered me to incorporation.

"We can operate as a self-employed individual, filing a Schedule C, which is part and parcel of our 1040 form," Klein told me, using the royal *we*. "The advantage of operating as a self-employed individual is that there usually aren't the legal setup fees there are in incorporating."

If you're starting off small, it might make sense to start slow and incorporate later, Klein said. But he had bigger plans for me, and in my analysis, his recommendations made great sense. Since I was going to be working full-time and I gave up all of my benefits, I incorporated right away.

The corporation can pay many of the legitimate business expenses from pretax dollars and pay you, as an employee, from the proceeds. My corporation would pay for medical and disability coverages and a small portion of my life insurance, with the right to fully write off these expenses as a cost of doing business. The same would apply to special business liability coverage. And the

corporation, existing as a legal entity, would serve as a shield against personal liability. Finally, I learned that a corporation may choose to offer a plan to reimburse any medical expenses not covered by medical insurance coverages, including payment of deductibles, to its employees.

If you don't incorporate, you can deduct only a portion of the expenses for some kinds of insurance. And your personal property could be fair game in a lawsuit.

We opted for a standard (Chapter C) corporation. Many small businesses use a simplified form of business called a Subchapter S corporation that offers some tax advantages for a small company, but does not allow you to write off insurance costs.

When you start the corporation process, the up-front costs may scare you: I paid about \$600 for a lawyer's time and filing fees and received a plastic binder of legal papers, a set of *pro forma* minutes of the first meeting of the board of directors, and two stock certificates for the president (me) and the treasurer (my wife).

But I will soon make up that expense: I expect to save several thousand dollars on insurance premiums in the first year.

CHOOSING A BUSINESS NAME

When our children were born, my wife and I experienced the power of bestowing a name that will be with our babies for life. Within reasonable bounds, we were free to choose any name we wanted. Choosing a name for a business isn't so simple.

I once did an interview with the president of a multimillion-dollar high-technology company with a particularly meaningless name. I asked what the name meant. "Nothing," he said, sadly. "It was our fifth choice on a list of five, and the first four had been taken."

That wouldn't happen to me, I decided. I chose a name that summed up my concept of the company, a name that sounded high-tech yet approachable, a name that I could envision spelled out in raised letters on fancy business cards. I hunted through an on-line computer database for other companies with the same name; I searched through an electronic index of magazine and newspaper articles and found no conflicts.

And then, the day before my appointment with the attorney to begin the incorporation process, I was flipping through a telephone book from a town just 10 miles away. There it was: my business's name. Same name, same state, same area code. I went back to the drawing board and came up with Word Association, Inc., and this time it passed all the tests. Finally, I was off. Or was I?

I still had to put together my own benefits package. Woody Allen once described one vision of hell as being locked in a small room with a life-insurance agent; next month, I'll talk about everything I never wanted to know about insurance and was afraid I had to ask. ■

LEAVING A CORPORATION? FIRST STEPS TO CONSIDER

1. Hire an accountant.
2. Establish a tax strategy for your business.
3. Implement a strategy for continuation or rollover of pension plans.
4. Based on your tax position, accelerate or delay payment of bonuses, severance, and vacation pay from your former employer.
5. Exit gracefully, with an official story designed to maintain your links to your former employer and contacts.
6. Personally notify those contacts most important to your new business.
7. Decide on a form of business.
8. If you decide to incorporate, hire an attorney to prepare the proper papers.
9. Research and then choose a business name.
10. Review your insurance portfolio with several competitive insurance companies or independent agents.

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WordPerfect 5.1 boasts over 30 new features. Like Tables. Work with columns and rows of information like never before. Merge has been magnified, yet simplified. Creating mailing labels is a breeze. Tabs are now more flexible. Spreadsheet data can be

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Edit an equation using English-like commands. The Equation Editor builds and displays graphics-based equations. Is there a scientist in the house? Now your equations are simple to write.

Of Mice and Menus... You asked for it!

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The Latest Words

The Hot, New Versions of Microsoft Word for MS-DOS and Macintosh Computers Raise the Stakes on the High End

BY STEVE MORGENSTERN

Never mind for the moment whether it's fair or accurate or philosophically repugnant to pigeon-hole people. Let me describe my preconception of a typical Macintosh user.

An individual, used to working alone. Likes to tinker with the computing environment, tweaking it to reflect his or her personality (just look at all those silly sounds and start-up screens Mac users relish). Graphically oriented, with a fondness for pictures, flashy typefaces, and boxes with drop shadows.

Now for the flip side—my preconceived MS-DOS computer user.

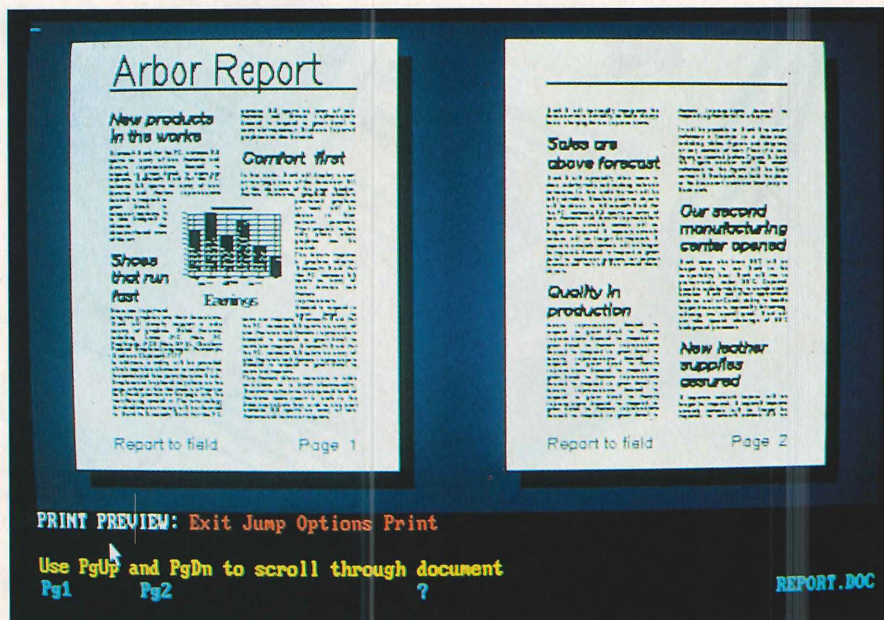
Works in a group, has many people reviewing and approving each document. Thinks Courier is a great typeface for text, headlines, and footnotes, and maybe love notes, too. Accepts the computer working environment as it's presented straight out of the box, except for the Power User who enjoys building mega-macros to automate computer use as much as possible.

A WORD FOR EACH SYSTEM

What intrigues me about these stereotypes at the moment is not whether they're empirically valid, but the interesting ways they've obviously influenced the design of Microsoft Word for each computer system. Word 5.0 for MS-DOS and Word 4.0 for the Mac were released within weeks of each other, and both reflect the current challenges in designing word processors for their respective systems. For MS-DOS word processors, that means trying to produce documents with multiple typefaces and graphic elements on a computer designed to display letters in a single size and shape. On the Macintosh side, it means producing software that competes in business.

Right off the bat, let's give credit where credit is due. Both are excellent word processors. They're fast, packed with genuinely useful features, and rock solid—I couldn't find a way to make either version of Word crash, and every dumb mistake I threw at the programs produced comprehen-

STEVE MORGENSTERN regularly observes the cross-cultural scene by working on both MS-DOS and Macintosh systems.



The Preview mode in the MS-DOS version of Word shows a reduced view of entire pages, either one at a time or in two-page spreads. However, you can look but not touch—if you need to make changes, you must jump to another view.

sible error messages.

Both versions of Word include all the core capabilities you expect in a state-of-the-art word processor: table of contents and index generation, footnotes, mail merge, widow and orphan control, spelling checker, thesaurus, and hyphenation.

ACCURATE SCREEN DISPLAYS

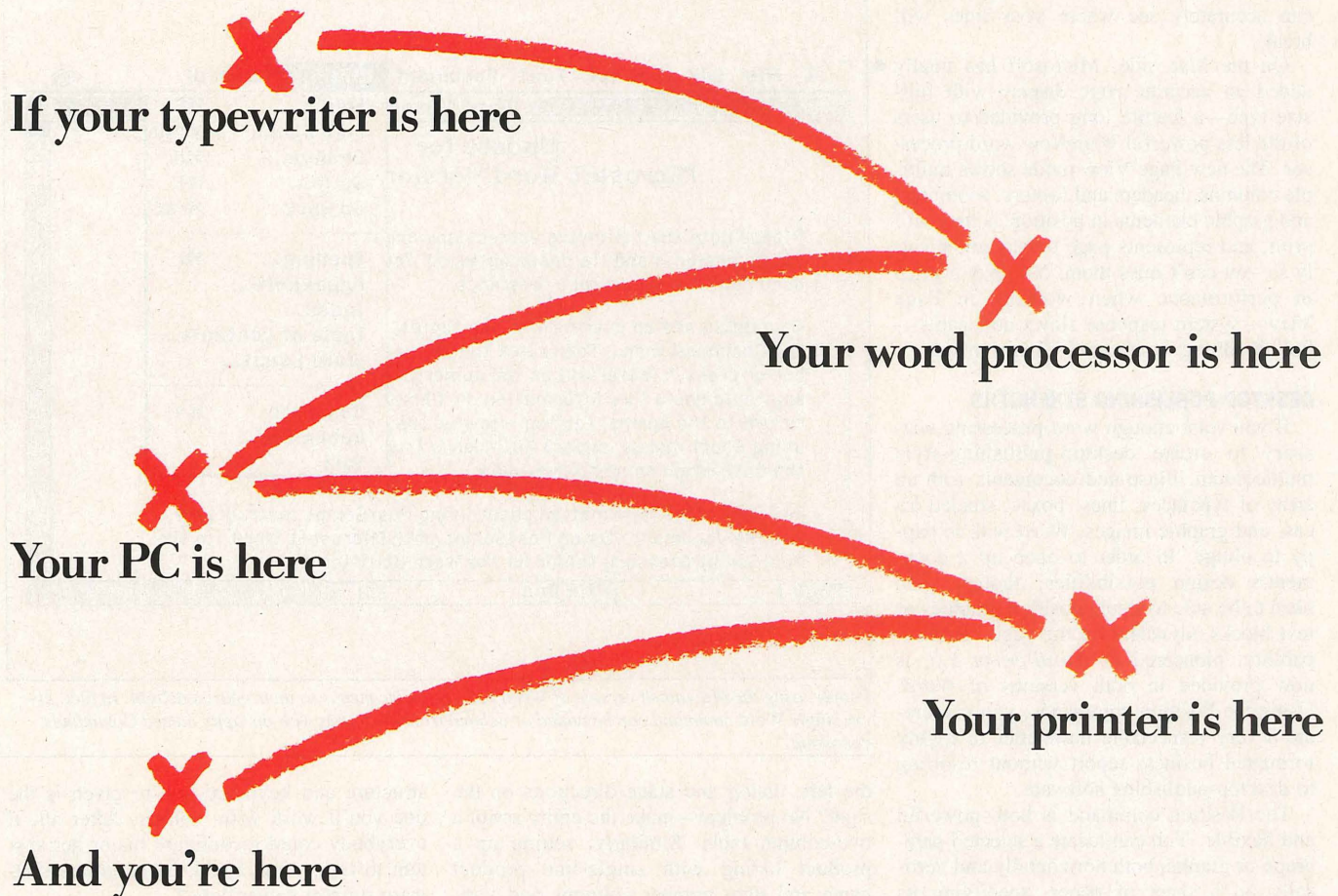
Today's word processors offer ever more elaborate formatting choices, including several typefaces, multiple columns, and graphic images in documents. Both versions of Word have taken important steps to tighten the connection between what's on-screen and the printed page.

On MS-DOS computers, display accuracy has been enhanced by the new Show Layout view. Unlike the standard view, Show Layout displays on-screen multiple columns, along with blank boxes that indicate the position of graphic elements. There are still a few rough spots in the Show Layout implementation—position indicators for graphics rather than the real thing disappointed

me, and neither line numbering nor running heads are displayed. Still, Show Layout resolves one of my major complaints about previous versions of Word—the difficulty of editing material formatted in side-by-side paragraphs.

Word 5.0 adds a Preview mode that shows a reduced view of entire pages, either one by one or in two-page spreads. In this mode all text is shown in place, including running heads and footnotes and a representation of graphic images. While an improvement over nothing at all, Preview lets you look but not touch—if you need to make changes, you must jump back to Show Layout view. In contrast, the Mac version's Print Preview mode (which shows full pages in reduced size) gives you margin and page-numbering capabilities.

Like all character-based MS-DOS word processors, Word 5.0 has a problem displaying lines of text using proportionally spaced typefaces. One way to handle this is to scroll the display horizontally to see the ends of long lines. Word 5.0 provides this



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mode, which is, after all, the only way you can accurately see where your lines will break.

On the Mac side, Microsoft has finally added an accurate page display with full-size type—a feature long provided to users of the less powerful *WriteNow* word processor. The new Page View mode shows multiple columns, headers and footers, footnotes, and graphic elements in position as they will print, and represents page breaks graphically so you can't miss them. You pay a price in performance when working in Page View—system response slows noticeably—but all editing capabilities remain intact.

DESKTOP-PUBLISHING STRENGTHS

If you want enough word-processing wizardry to create desktop-publishing-style multicolumn, illustrated documents with an array of typefaces, lines, boxes, shaded areas, and graphic images, *Word* will be happy to oblige. In order to open up a document's design possibilities, though, you need to be able to freely position graphics or text blocks anywhere on the page. This capability, pioneered in *WordPerfect* 5.0, is now provided in both versions of *Word*. Using the Position commands, you can create a very respectable newsletter or highly formatted business report without resorting to desktop-publishing software.

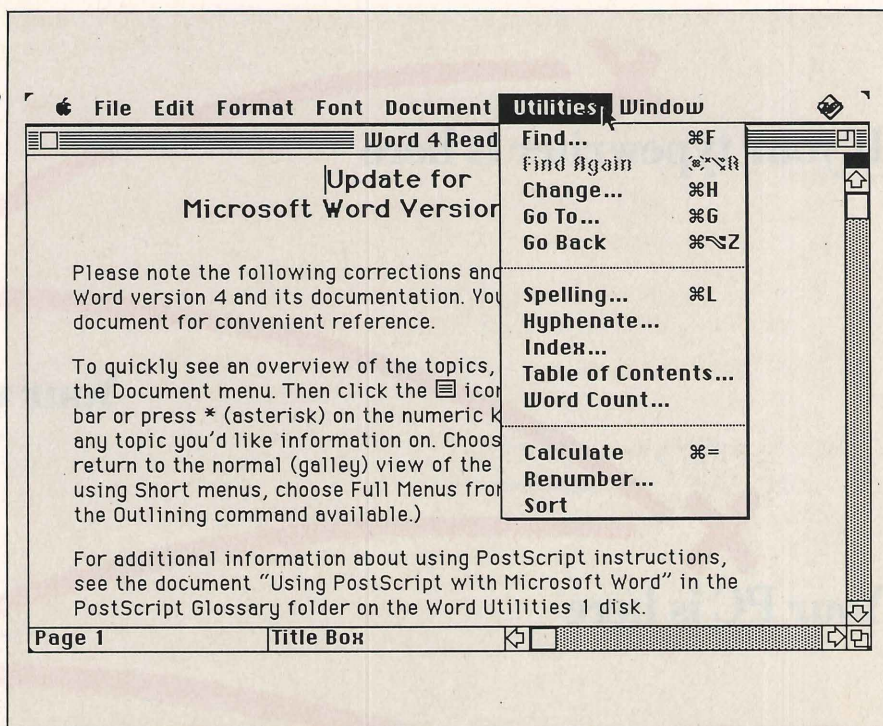
The Position command is both powerful and flexible. You can locate a selected paragraph or graphic both horizontally and vertically on a sheet of paper, specifying its location either relative to the page, margins, or column (left, right, or center) or by a specific distance measurement (in inches, centimeters, points, or picas). If there is regular text in the spot you specify, that text will wrap around the positioned item.

ARRANGING A PAGE SIMPLY

Word 5.0 relies on tab settings to create tables. Although there's a supplied macro that makes setting those tabs easy enough, it's still limited compared with the elegant new Tables function in *Word* on the Mac.

Creating a *Word* 4.0 table is a simple matter of entering the desired number of rows and columns in a dialog box. Voila! A grid of boxes to your specifications is added to your document. You can insert borders around some or all of these cells and change their width using the ruler bar or a dialog box. You can insert or remove rows or columns and have unequal numbers of columns in different rows if it suits your purpose; for example, heading rows might be a single column across while the rest of the table consists of multiple data columns.

Most important, the height of each row adjusts automatically as you enter text in any cell in that row. This makes a *Word* 4.0 table much more than a device for creating spreadsheetlike constructions (though it certainly does a fine job at that). Do you need to format a script with character names on



People using the Macintosh version of *Word* can customize menus to their heart's delight. In fact, every single *Word* command can be added or deleted from any menu with the aptly named *Commands* command.

the left, dialog and stage directions on the right? No problem—make the entire script a two-column table. Similarly, setting up a product listing with single-line product name and item number columns and variable-length product descriptions as a *Word* 4.0 table will automatically align all the elements.

MAKING THE SOFTWARE SUIT YOUR WORKSTYLE

My editor tells me that none of the command keys—keyboard shortcuts used instead of choosing commands from a menu—for *Word* 4.0 work the way they did when he first installed the program on his Macintosh. That may sound like a problem at first, but it's actually a tribute to the Silly Putty-like flexibility of *Word* 4.0. If you don't like the keystrokes Microsoft has preset to invoke commands, you can easily change them using the aptly named *Commands* command. The same goes for the menu items themselves. You can add commands that would ordinarily require a dialog box—starting a new section without a page break, for example—to one of the menus. In fact, every single *Word* 4.0 command can be added or deleted from any menu.

Of course, all this keyboard juggling could become intensely confusing, but Microsoft has an answer: The program will compile a formatted list of all word-processing commands with their current menu status and keyboard equivalents.

To find a similar level of configurability in the MS-DOS world, you'd have to use Borland's *Sprint*. In *Word* 5.0 the menu

structure and keyboard you're given is the one you'll work with, soldier. After all, if everybody could reconfigure his or her system to taste, how could the corporate software support center cope?

On the other hand, when it comes to building power-user macros, *Word* 5.0 is a powerhouse.

There are two broad categories of macro capability. The first is a simple keystroke macro, which records a string of keystrokes you would ordinarily enter manually, then plays them back on request. Although *Word* 4.0 on the Mac gets a decent macro capability from *AutoMac*, a third-party product, the macro facility in *Word* 5.0 for MS-DOS goes far beyond the level of simple keystroke macros (though it will certainly handle them easily). For more powerful operations, it incorporates a full-fledged programming language that lets you produce automated sequences to lead the user through entire procedures, complete with on-screen messages.

Word 5.0 includes more than 30 predefined macros, which are not only useful by themselves, but also show you the power of *Word* 5.0 macros. For example, one macro automates the process of creating an index. You simply list the words you want indexed in a separate document and invoke the *Index*.mac macro—it will search your main document for the words you specified and automatically insert the codes necessary to produce index references to those words.

Both programs have a Glossary feature for inserting boilerplate text—text blocks of any length that you reuse frequently—in a

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Dr. Stephens of NASA states: "One of the things I like best [about DesignCAD 3D] is that I can pick it up and go with it." Dr. Stephens, who evaluates and recommends software for purchase by NASA, says software must meet certain criteria: "One, it must work. Two, it must be user friendly and easy to use. I push it [DesignCAD 3D] as far as I can push it. We're not using it as a toy down here, and I resent the fact that some people believe that a product's ability is substandard because of its price."

Jan Hallett, an engineer at Allied Chemical states: "We use it extensively here and are really sold on it. Plant layouts, pipe runs, fabrications, along with a lot of other things are drawn and designed. I've got AutoCAD, but very seldom if ever use it anymore."

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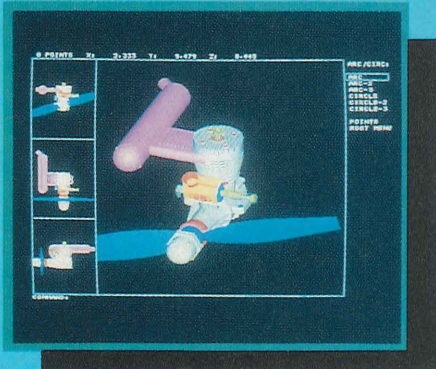
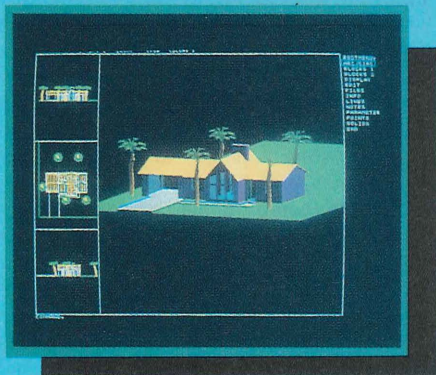
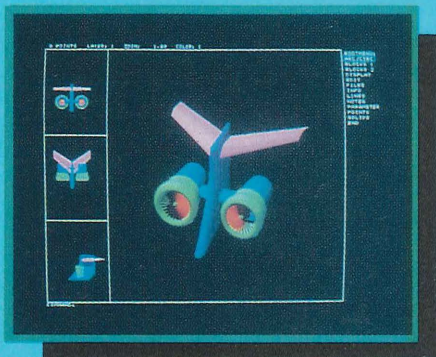
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document. The methods of storing and retrieving these glossary entries are different, but each is easy to manage, giving you the choice of selecting from a list of stored entries or using a keystroke shortcut.

QUICK AND EASY FORMATTING

Formatting documents with style sheets is a hallmark of Microsoft *Word* in both formats. A style is a set of formatting commands that can include typeface selection, size and style, paragraph margins and indents, tab settings, and so on. A collection of styles makes up a style sheet.

There are three key advantages to formatting documents with style sheets: speed, consistency, and ease of use. Style sheets are one of the last remaining points of differentiation between high-end and mid-level word processors, and both versions of *Word* make excellent use of them.

Word 5.0 lets you display a Style Bar along the left side of the screen, identifying the styles attached to each paragraph at a glance. Each style can be selected from an on-screen list by going through the menus, or you can use a two-letter code to apply a style with just three keystrokes.

In *Word* 4.0, you can add styles to the Work menu. The program has also added a style selection menu on the left side of the ruler that lists all the styles you've defined for that document. By highlighting a style, you can quickly reformat one or several selected paragraphs.

UP-TO-DATE REPORTS

Microsoft is a leading light when it comes to linking word-processing documents and spreadsheets. *Word* 5.0 lets you directly import all or part of a *Multiplan*, *Excel*, or *Lotus 1-2-3* spreadsheet. *Word* 4.0 similarly imports spreadsheet data and graphics from *Excel*, and also directly links graphic files from *SuperPaint*, *MacPaint*, and *MacDraw*.

On the Macintosh, this is much more than a simple cut-and-paste capability. The word processor stores a pointer to the spreadsheet or graphic source file. If you make changes to that file, you bring the latest version into *Word* by telling the program to update the link (which works only with *SuperPaint* and *Excel*). That's a significant time-saver for many projects. For instance, if you produce a weekly report that varies primarily in the figures derived from your spreadsheet, using a boilerplate memo with a link to your spreadsheet data not only saves time, but ensures that you're using the most up-to-date information.

OUTLINING AS WRITING

In both computer formats, *Word* treats an outline as another view of your document, rather than as a separate document. You can toggle between outline view—which displays headings, subheadings, and text blocks in traditional indented format—and regular document view, which displays the

same material in standard text format.

This type of outlining can be a useful tool for well-organized souls. It is also a handy way to move large blocks of text quickly—just collapse the material under a subhead, then move the subhead and all the material associated with that subhead moves with it.

My only real gripe with Microsoft *Word*'s outlining is the lack of automatic renumbering. You can number an outline at any time, using standard Harvard style or several alternatives. However, when you move a heading, it doesn't renumber automatically—you must reissue the numbering command each time. I find that a nuisance.

LEARNING TO WORK WITH WORDS

One of the elements that has remained consistent from earlier releases of *Word* is the excellence of Microsoft's documentation. Each version comes with a complete user's guide plus a quick reference guide and a sampler book providing ideas for advanced use of the products. *Word* 4.0 for the Mac also includes *Getting Started* and *Learning Guide* sections.

Although the *Word* 5.0 user's guide has a *Getting Started* section as well, the best way to learn the software is with its superb disk-based tutorial. Using clear explanations and hands-on exercises, this extensive tutorial can turn a novice into a productive *Word* user. The tutorial also gives *Word* 5.0 the edge in the on-line help department. Both programs offer extensive, easy-to-reach, context-sensitive on-screen help. But MS-DOS users have the option of accessing the tutorial lesson on a given topic directly from the help system, without quitting the word processor. As much as I like the tutorial manual provided with *Word* 4.0—and acknowledging that the Mac version is easier to use—I think it's time Microsoft gave their Macintosh customers the benefit of this tutorial program.

WORD VS. WORD

I realize that most readers are more interested in how each version of *Word* compares to other word processors for their respective computer systems, rather than a cross-cultural evaluation. Those comparisons can actually be drawn simply:

In my estimation, *Word* 5.0 and *WordPerfect* 5.1 are currently neck and neck for top honors among high-end MS-DOS word processors. *WordPerfect* offers more flexibility when dealing with graphics, while *Word* 5.0 offers excellent mouse operation and strong macro capabilities for those who want to automate their word processing.

In the Macintosh world, Microsoft has wisely chosen to add several major new features while remaining fast and lean. The program can use as much memory as you have installed, but requires only 512K to run. Contrast this with a product like *Full-Write Professional*, which, in its attempt to provide an extraordinary scope of desktop-

Microsoft Word

VERSIONS REVIEWED: 5.0 (MS-DOS) and 4.0 (Mac)

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules, MCGA, MDA; DOS 2.0 or higher; 5.25- or 3.5-inch. 512Ke Macintosh (1MB recommended); two drives (hard-disk drive recommended); System 3.2 or higher.

PUBLISHER: Microsoft Corp., 1 Microsoft Way, Redmond, WA 98052; (206) 882-8080

PRICE: \$450 (MS-DOS); \$395 (Mac)

OVERALL PERFORMANCE: ★ ★ ★ ★ (both)

DOCUMENTATION: ★ ★ ★ ★ (both)

ERROR HANDLING: ★ ★ ★ ★ (both)

EASE OF USE: ★ ★ ★ (MS-DOS); ★ ★ ★ ★ (Mac)

SUPPORT: ★ ★ ★ (both)

publishing features, cannot run at acceptable speed on a machine with 1MB of memory. *Word* 4.0's extraordinary configurability and powerful tables, combined with a user interface that I find extremely comfortable in day-to-day use, make it my top choice among Mac word processors.

Still and all, I find the cross-cultural comparison worth considering even if you are locked into a computer system.

The lack of several valuable features detracts from the Mac product's status as a business tool compared with its MS-DOS cousin. Adding automatic revision marking, cross-referencing, and annotations would go a long way toward closing the gap. And how about a stronger, built-in macro capability? This is the same publisher that created *Excel*'s extraordinary macro functions—why not share the wealth with the word-processing department? As it now stands, most of the advancements in *Word* 4.0 fit the preconceived strengths of the Mac—graphics and configurability—rather than hard-line word-crunching improvements.

By the same token, the MS-DOS product development group should move quickly to adopt *Word* 4.0's word-count and table-building capabilities. When it comes to seamlessly incorporating graphics and proportional fonts in the MS-DOS environment, the answer lies not with a further refinement of this program, but the new *Windows*-based version of *Word* which has been brewing in Microsoft's test kitchens for many months now. Though it is not slated to ship until some time later this year, the advance buzz indicates it will bear more than a passing resemblance to the Macintosh version of *Word* while retaining the business-oriented features of the current DOS release. Only time will tell whether the last *Word* in word processing is just around the corner. ■

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Getting the Big Picture

BY STEVE MORGENSTERN

Reviews of Three Full-Page Portrait Display Systems

Full-page monitors: Chances are you've seen them—or read articles about them. If you're into desktop publishing, you may already own (or at least covet) one. If you're not, the notion that you might have a use for such a pricey piece of equipment may never have crossed your mind. But "oversize" monitors are great productivity boosters for many kinds of work.

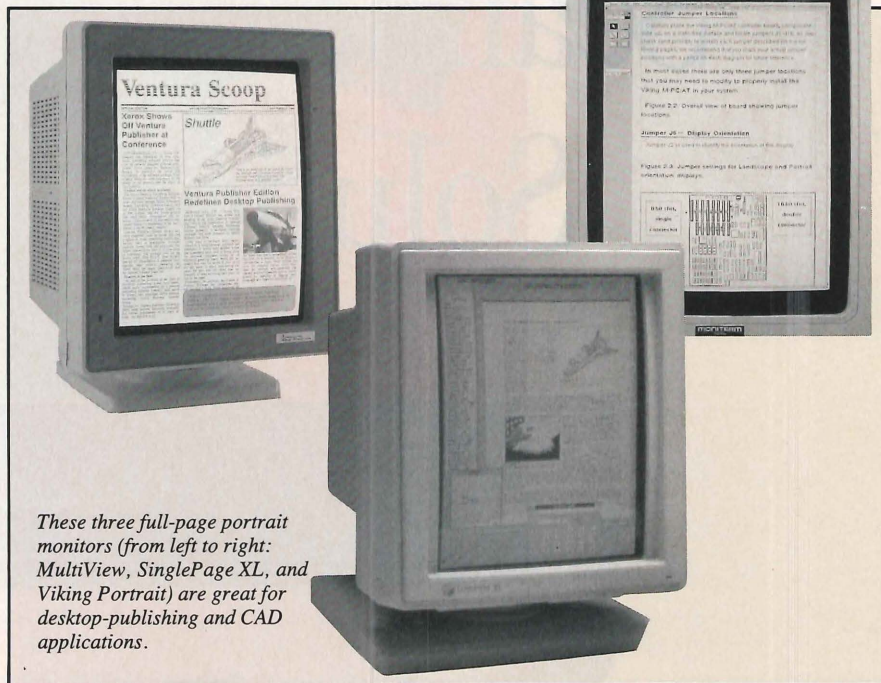
Let's start with the most obvious. The graphic arts, including desktop publishing, CAD, and illustration, are natural applications for full-screen displays, since seeing the whole picture (in maximum detail) is vital to each. With a standard monitor, you must choose between viewing a reduced image with diminished detail and taking the time to print out draft copies of your work. A full-page, on-screen image streamlines work significantly.

A less obvious application for full-page displays involves the increasingly popular "graphical user interface" environments of *Windows*, *OS/2 Presentation Manager*, and *GEM*. With a larger screen you can display several applications in on-screen windows simultaneously, giving each enough space to present a meaningful amount of information.

Perhaps least obvious (or most overlooked) is the dramatic benefit that users of character-based applications such as word-processing and spreadsheet software can derive from a larger display. Seeing a full page of work at a glance eliminates a lot of scrolling time. More important, though, it lets you scan more information at once, making the connections between different parts of your document more readily apparent. It allows you to work more efficiently and coherently.

Physically, large-screen displays fall into two groups (with a couple of maverick exceptions). Portrait monitors (taller than they are wide) are designed to display a single page at a time. Landscape monitors (wider than they are tall) are designed to display two pages side by side. In this report we'll deal with portrait monitors, which are smaller and less costly than landscape models,

STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.



These three full-page portrait monitors (from left to right: MultiView, SinglePage XL, and Viking Portrait) are great for desktop-publishing and CAD applications.

yet still offer significant benefits. We will also limit our survey to monochrome units—full-page color displays cost thousands.

Have I piqued your interest? Let's consider some of the criteria you might want to

apply when looking for a full-page display (or, more correctly, display system, since each of the monitors reviewed here includes a special graphics card to drive it).

Screen Size. Standard portrait monitors are approximately 15 inches or 19 inches diagonally. You need the 19-inch size to display a full page at actual size, but a well-made 15-inch monitor displaying a slightly reduced page is much less expensive and should be perfectly adequate for most users.

Gray Scale. There are two subcategories of monochrome displays—black-and-white and gray-scale. As the name suggests, a black-and-white monitor displays only black dots and white dots. To represent a shade of gray or a color, the best it can do is substitute patterns of dots. A gray-scale monitor, on the other hand, can display dots in several intermediate shades of gray as well as solid black and white, which makes for more accurate display of artwork and scanned images.

Screen Drivers and Compatibility. Every software package provides *screen drivers* for different types of displays, generally covering all the standard systems—CGA, EGA, VGA, monochrome (MDA), and Hercules. Some software packages provide special drivers for nonstandard monitors such as the ones we are discussing, although most manufacturers of full-page monitors

REVIEWED IN THIS ISSUE

Full-Page Portrait Display Systems:

Cornerstone Technology SinglePage XL
Monitorm Viking Portrait
Princeton Publishing Labs MultiView
monitor with GrafixPro controller

Scanner:

Mitsubishi SP-MH216AF

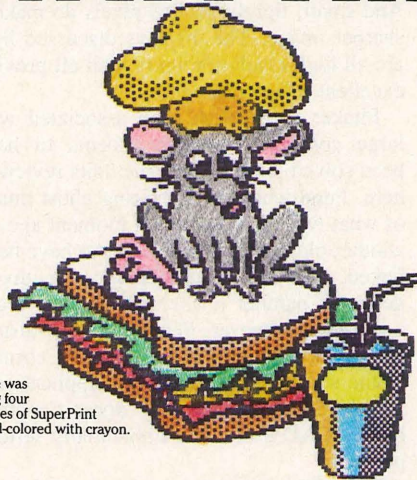
Telephone Call—Tracking System:

WordTech TimeScribe

ABOUT THIS MINIGUIDE

Full-page monitors have been around for several years, but the current crop is more versatile than previous generations. This is due, in large measure, to the ever-expanding selection of screen drivers being turned out by both display-system manufacturers and software publishers. The three systems reviewed here are all from major players in the full-page display field. Two similar products were not included in our roundup: The Sigma PageView was not available for review at press time, and the NEC MonoGraph System was reviewed in our July 1989 issue.

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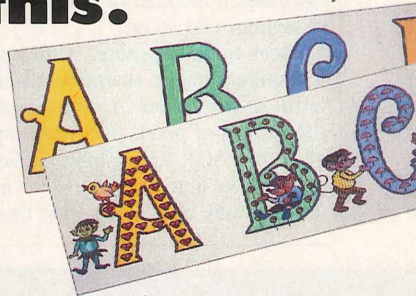
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supply drivers that are compatible with a selection of software packages. All of the monitors reviewed here, for example, come with drivers for MS-DOS, Microsoft *Windows*, *GEM*, *Ventura Publisher*, *AutoCAD*, *Lotus 1-2-3* and *Symphony*, and *WordPerfect 5.0*. (Additional drivers are noted in the reviews.)

However, users of full-page monitors are likely to find themselves, at some point, using software that has no driver for their display. It's important, then, that every full-page display system be able to emulate at least one of the standard displays. Otherwise the user will need a standard monitor for use with such packages.

Display Quality. A good computer display provides a sharp, crisp image with adequate brightness and contrast. Several factors influence display quality, including the size and shape of the live image area, the size and shape of the pixels ("picture elements," or illuminated dots that make up the image), the kind of phosphor used, glare reduction, and so on.

Most computer users, if they think about a display's image sharpness at all, think in terms of resolution. A screen's resolution is the number of pixels that makes up the image (1,280 by 800, for example). The more pixels you fit into a given screen area, the smaller and closer together they will be.

And small, tightly packed pixels do make a sharper image. The displays discussed here are all high-resolution units, and all provide excellent image sharpness.

Flicker, a problem long associated with large computer monitors, seems to have been solved, at least with the units reviewed here. Persistence, the lingering ghost image of what was on the screen a moment ago, is another old problem that seems to have been licked. Distortion (convergence or divergence of parallel lines) must still be reckoned with, however. Where present, distortion most often affects the edges or corners of the screen. With text-based applications, a little distortion probably doesn't matter, but for CAD users, it's a potentially serious problem.

Price. The units reviewed here cost from just over \$1,000 (the price of a good standard color VGA display, including controller card) to \$2,700. That's a lot of money, but to put prices in perspective, I try to keep in mind that I work faster with a large monitor (time is money, right?).

Having enumerated the factors that determine monitor quality and having mentioned the potential problems, I encourage readers to go out and carefully examine these products for themselves. Rely on your own senses. The experience is as personal and subjective as shopping for a stereo system.

Now, let's look at the specifics of the three systems we have chosen for review.

Cornerstone Technology SinglePage XL

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$1,495

This 15-inch monitor (with included controller card) provides an exceptionally crisp, bright, paper-white display, but it has a few significant limitations.

The SinglePage XL handles *Windows* applications with exemplary clarity. The text display is slightly smaller than life-size, though somewhat larger than that of the Princeton system, reviewed below.

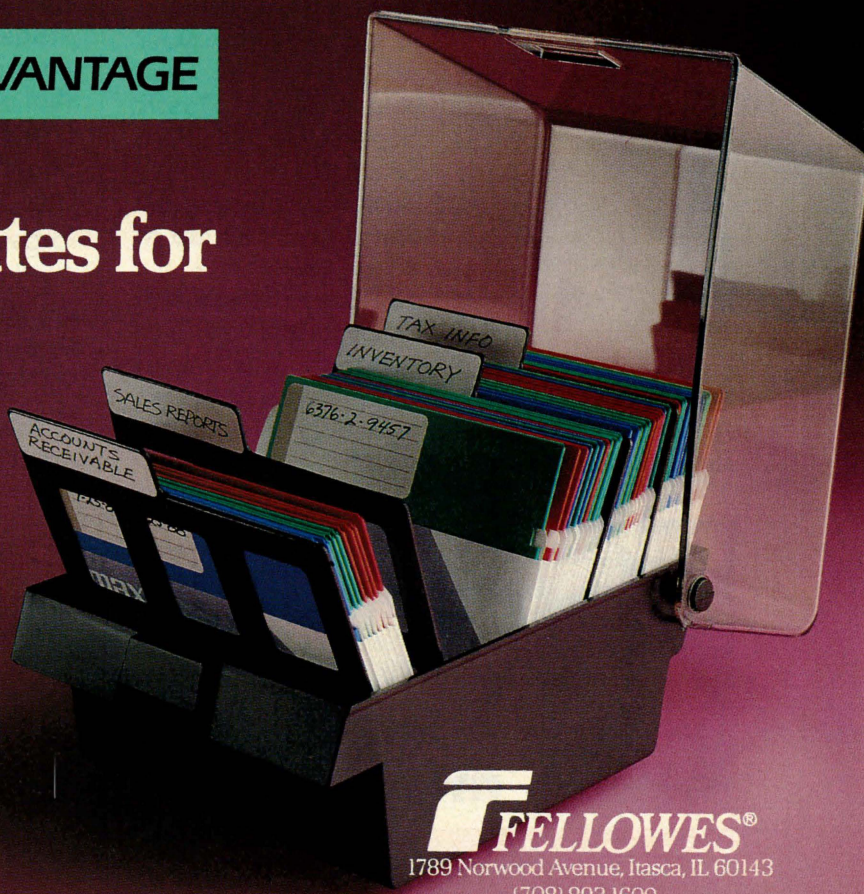
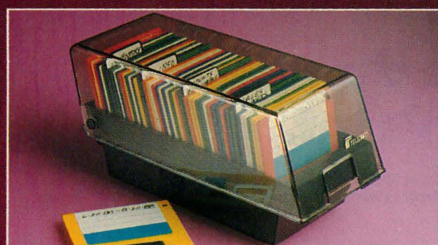
Beyond *Windows*, the story changes. For the *GEM/Ventura Publisher* environment, Cornerstone has attempted to enhance the unit's font display capabilities—with mixed results. There are, in fact, two versions of the XL—one straight black-and-white (\$1,295), the other with four levels of gray (reviewed here). The gray-scale version's limited palette is insufficient to represent scanned images or artwork effectively. Its purpose is rather to enhance the display of Cornerstone's custom screen-font set—called TrueFonts—by using gray dots around the edges of characters to smooth their on-screen appearance. TrueFonts comprises the standard selection of *Ventura*

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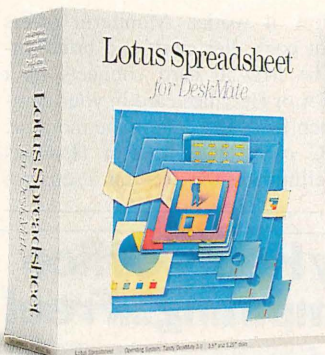
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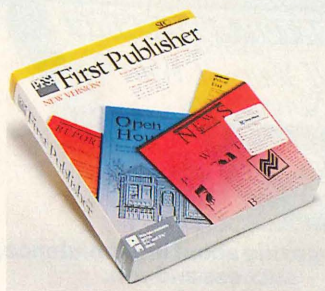
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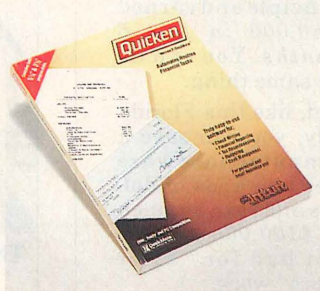
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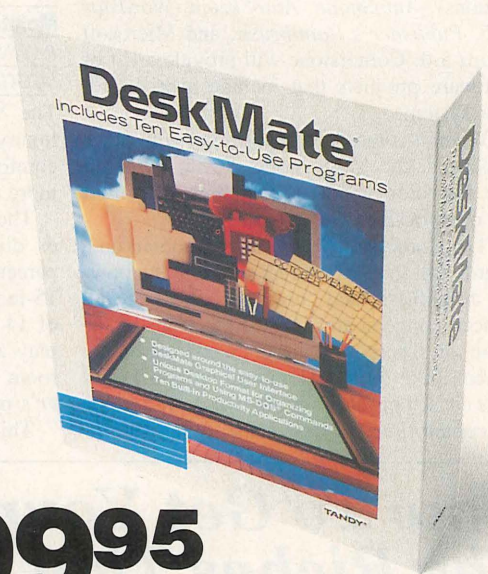
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typefaces—Times and Helvetica clones plus Symbol—in various sizes. The TrueFonts do look nice.

But life is not all Times and Helvetica, and the screen fonts provided by other font vendors don't look especially sharp or attractive on this display. Unless Cornerstone chooses to drastically expand its TrueFonts offerings, I think I'd choose to save the \$200 and stick with the black-and-white model.

Cornerstone supplies software drivers for a significant number of packages beyond those mentioned in the introduction: *Page-Maker*, *Excel*, and *Ami* (all *Windows* applications), *AutoShade*, *AutoSketch*, *Wordstar 5.5*, *Publisher's Paintbrush*, and *Microsoft Word 5.0*. Cornerstone will provide a list of software products that include a driver for this system.

When it comes to compatibility with other packages, the Cornerstone system relies on the Hercules standard, which is supported by most business software.

The Cornerstone monitor is mounted on a sturdy tilt-and-swivel pedestal, and the power, brightness, and contrast controls are all placed conveniently toward the front of the monitor. There is no antiglare coating on the screen (like on the Moniterm monitor), and this caused problems in my windowed office at certain times of day. I also found signifi-

cant image distortion along the top and bottom edges of the monitor—the top right pulled left, the bottom left pulled right.

The SinglePage XL's strong suits are its brightness and pinpoint crispness. I especially like it for working in the *Windows* environment—as part of a dual-monitor setup. I ran the XL while keeping a VGA board in another slot and experienced no compatibility problems. This gave me the best of both worlds: a bright, crisp display for my *Windows*-based applications and standard color display for the rest of my software.

Moniterm Viking Portrait

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$2,495

The Viking Portrait display system is the luxury model of this group, clearly built for comfort. It's bigger than the others and a lot more expensive.

The Moniterm display measures 19 inches diagonally; that translates to about 70 percent more screen area than you get with a 15-inch display. With an actual image area of 14 by 10.5 inches, this monitor can display a full page at actual size with enough room left over to include *Ventura Publisher's* menu sidebar.

This system's image quality is outstand-

ing. All screen fonts are highly legible, the unit's contrast and brightness are top-notch, and there is no hint of visible distortion.

As you might expect with this luxury model, you get some fancy extras. There is a special *Windows* driver, for example, that lets you set up a display three screens wide that scrolls automatically as you move the cursor to the edge of the viewing area. Utterly simple; utterly wonderful!

For the ultimate in screen-font resolution, Moniterm includes Bitstream's *Fontware*, a package for creating both printer and display typefaces. Using *Fontware* you can create screen fonts at 91 dots per inch to match precisely the Moniterm screen resolution. The result is outstanding text display.

Moniterm supplies, to quote its promotional literature, "software drivers for hundreds of programs and operating systems." In case your software is not among those hundreds, and assuming that your package doesn't supply a driver for the Viking, you can fall back on Hercules or CGA emulation or both.

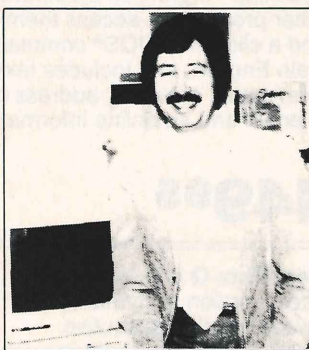
Here's how it works. Moniterm offers two different controller cards (no price difference). The MD-30 card connects to a separate CGA or Hercules card in your computer and then feeds the data to the monitor. The MD-1C card, with built-in Hercules emulation, eliminates the need for a separate

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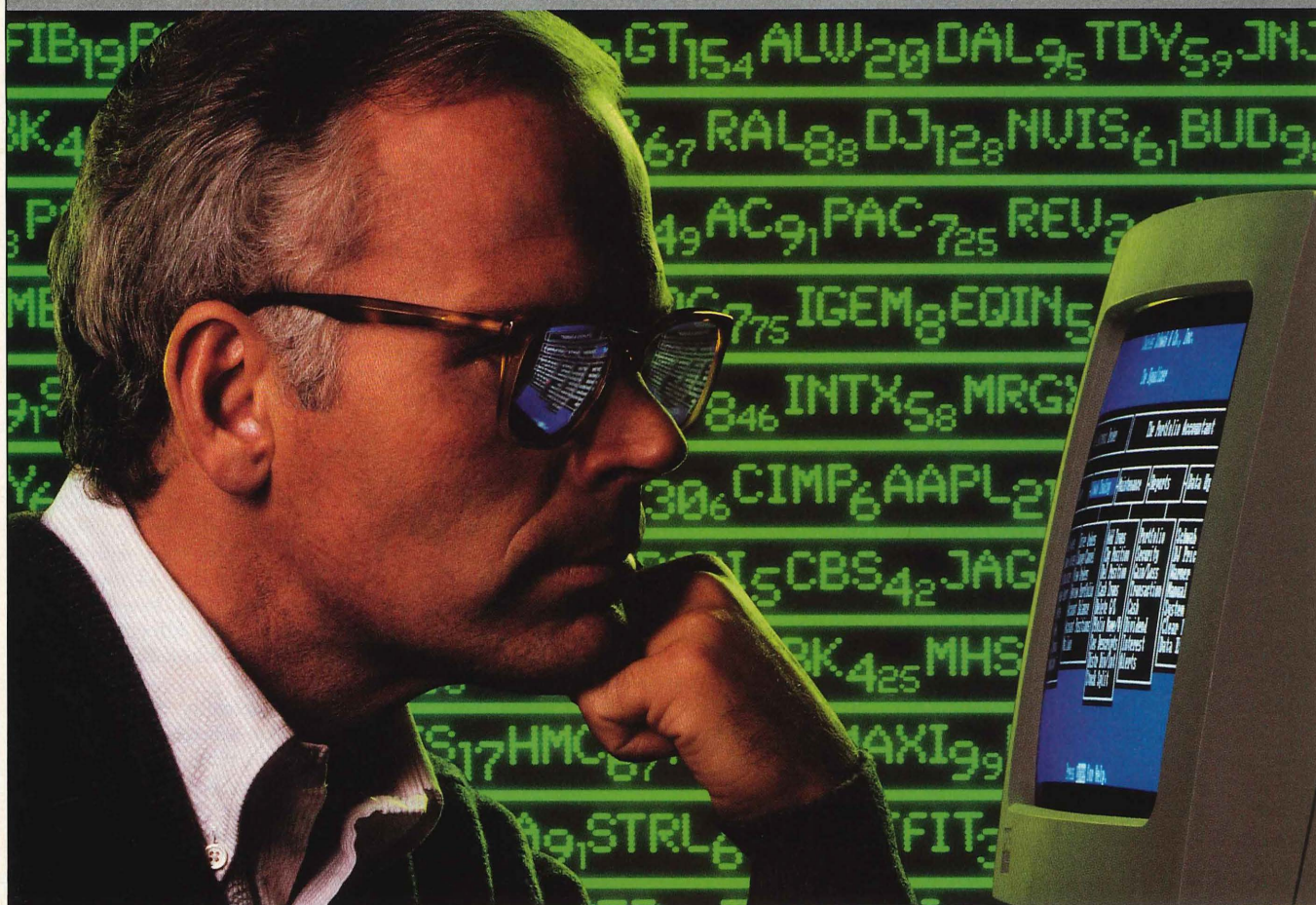
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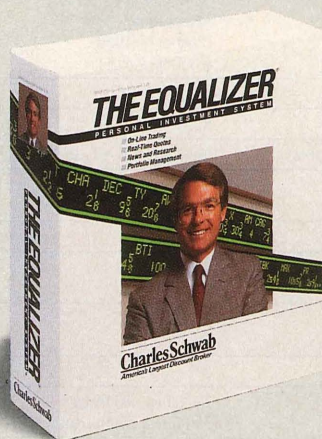


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controller and thus frees up a slot in your computer. If you need EGA or VGA, you'll have to add a separate monitor.

The Viking Portrait is a superb performer. Working on that big, beautiful screen was a pleasure, pure and simple. The very effective antiglare coating (\$200 extra) is highly recommended. The price factor weighs heavily in the final rating, however. At \$2,500 to \$2,700, the Viking is at the top of the scale for single-page display systems. For a few hundred dollars more, users can enter the realm of two-page, landscape displays.

There is a caveat, however. Although HOME-OFFICE COMPUTING's technical editors had no difficulty with the Viking in their testing labs, I experienced a significant compatibility problem. After much experimentation (and a few phone calls to Moniterm's technical support), I got the display to work in my system only by throttling down the clock speed on my computer's 80286 microprocessor to 6 MHz. According to Moniterm's technicians, this should not have been necessary. At this point, the problem remains a mystery, but I wouldn't buy the Viking without making sure I had return privileges. Sacrificing computer processing speed for the sake of compatibility

is a nasty trade-off—one that I'd be loath to make.

Princeton Publishing Labs MultiView monitor with GrafixPro controller

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$1,050

The Princeton Publishing Labs system is a reasonably priced, high-quality 15-inch display coupled with a video controller (which is available separately and will drive other monitors) that offers one unique and outstanding feature: universal software support.

The system is essentially a monochrome VGA display with enhanced drivers to support the full MultiView monitor screen. The companion GrafixPro controller card, however, produces any standard video output (VGA, EGA, CGA, or Hercules). So if you are using off-the-shelf software without special drivers for the MultiView, the system automatically displays the image in its normal size and proper proportions in the center of the screen. This adds up to instant, no-fuss compatibility.

Under Windows, running PageMaker or a Windows-based word processor, the MultiView displays the full text area of a standard page (cropping out the blank margins). To

see a full page in Ventura Publisher, users have to turn off the left-hand control panel or sidebar. In either case, the image is slightly smaller than life-size but nonetheless clear, accurate, and comfortable to work with.

In addition to the drivers mentioned above, the system supports PC Paintbrush/Publisher's Paintbrush and has a selection of screen modes for DOS text-based software, under which I was able to run WordPerfect with 66 lines per screen and XyWrite with 60 lines. The text font is a very readable serif face—the best of the three monitors I tested.

The image bowed outward slightly along the edges of the MultiView's display. For my work this wasn't a serious problem; for yours, it might be. My major problem with the image quality was lack of brightness—I would have liked a whiter, brighter image.

The monitor has an effective antiglare surface, and a handy tilt-and-swivel base is part of the package.

Its software adaptability makes the MultiView an excellent choice for anyone who plans to make do with only one display. And for those who want to have a color monitor as well, the GrafixPro VGA card will drive both displays. ■

THREE FULL-PAGE PORTRAIT DISPLAY SYSTEMS: A SIDE-BY-SIDE COMPARISON

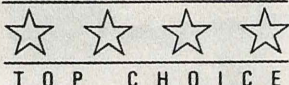
All of the full-page display systems reviewed in this miniguide come with a one-year warranty. Each of the systems provides software screen drivers for the following software applications: Windows, GEM, Ventura Publisher, AutoCAD, WordPerfect 5.0, and Lotus 1-2-3 and Symphony. Additional drivers are listed or discussed in the chart.

	SinglePage XL (four gray-level model)	Viking Portrait	MultiView monitor with GrafixPro controller
Manufacturer	Cornerstone Technology 1883 Ringwood Ave. San Jose, CA 95131-1721 (800) 562-2552 (408) 453-9800	Moniterm Corp. 5740 Green Circle Dr. Minnetonka, MN 55343 (800) 343-4969 (612) 935-4151	Princeton Publishing Labs, Inc. 19 Wall St. Princeton, NJ 08540 (609) 924-1153
Rating	★★	★★	★★★
Suggested Retail Price	\$1,495 ¹	\$2,695 ²	\$1,050
Hardware Requirements	IBM PC/XT/AT, PS/2 and compatibles	IBM PC/XT/AT, PS/2 and compatibles	IBM PC/XT/AT and compatibles
Dimensions (inches)	17 by 12 by 14	17.8 by 14.5 by 15	15.4 by 11.5 by 14
Controller Card Size	Full-length	Full-length	Half-length
Viewable Screen Size (diagonal, in inches)	12.9	19	13.2
Total Resolution (pixels)	1,008 by 768	1,280 by 960	1,000 by 800
Gray Levels	4	2	16
Compatibility	Hercules, MDA	Hercules, MDA or Hercules, MDA, and CGA	VGA, EGA, CGA, MDA, Hercules
Additional Screen Drivers Supplied	PageMaker, Excel, Ami, AutoShade, AutoSketch, WordStar 5.5, Publisher's Paintbrush, Word 5.0	Moniterm provides software drivers for hundreds of programs and operating systems. Consult Moniterm for further information.	High-resolution text mode (100 columns by 66 lines, maximum)
Special Features	TrueFonts		
Options		MD-1C single-slot controller (no additional charge)	

¹Black-and-white model also available (\$1,295); MCA versions of both models are \$100 extra. ²Tested model included Anti-Glare coating (\$200); controller for MCA computers available, \$200 additional

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SEPTEMBER, 1989

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INFOWORLD
AUGUST, 1989

"The HeadStart III is about as close to a no-hassle PC as I've seen."

LOS ANGELES TIMES,
NOVEMBER 24, 1988

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COMPUTER BUYERS
GUIDE, 1989



"...It's hard to imagine a better choice."

PC WORLD,
JUNE, 1989

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COMPUTER WORLD
MAGAZINE, MAY, 1989

SPECIFICATIONS

MICROPROCESSOR: Intel 80286-12
SPEED: 12MHz/8 Switchable
BIOS: Award
BUILT IN RAM: 1 Megabyte
EXPANDABLE TO: 3 megabytes
POWER SUPPLY: 145 watts
110/220 switchable
KEYBOARD: 101 key PS/2 compatible
GRAPHICS: VGA Autosync
FLOPPY DRIVES: one 5.25" 1.2 megabyte, one 3.5" 1.44 megabyte
HARD DRIVE: 32.1 megabyte, 28 milliseconds, 1:1 interleave
BUILT IN INTERFACES: Parallel, 2-RS232 serial, mouse, joystick
EXPANSION SLOTS: 3 available
MOUSE: Standard
SOFTWARE: DOS 3.3, GW Basic, HeadStart Advanced Environment, Floppy Driver, Framework II, 3-D Graphics, ATI and Computer★Ease Tutorial Software, XTree hard disk manager, Publish-it! Chessmaster 2000, Splash, VGA paint program, Bookmark, plus Twist and Shout.



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A Versatile Scanner and an Automated Telephone Activity Log

About Our Reviews and Ratings

Each month, HOME-OFFICE COMPUTING's Hardware Reviews take an in-depth look at new and worthwhile computers, peripherals, fax machines, copiers, phones, and other hardware.

Our reviewers set up the equipment in their own home offices. After heavy use and extensive testing, they rank each item on the basis of suitability for the home office and on overall value, taking into account performance, features, ease of setup, ease of learning and use, documentation, size, expandability/versatility, support, availability, warranty, and value for the money.

Then, the HOME-OFFICE COMPUTING Hardware Testing Lab conducts its own battery of tests (a printer speed test, for example) and verifies manufacturers' specifications. Finally, our technical editors weigh the reviewers' rankings, the lab test results, and their own experience to determine an overall rating on a scale of zero to four stars:

○	Poor	★★★	Very Good
★	Average	★★★★	Excellent
★★	Good		

Note on Hardware Requirements:

Any product listed as requiring an IBM PC/XT/AT or compatible should also work with an IBM PS/2 Model 25, Model 30, or Model 30 286.

Hand-Held Scanner with Broad Vision

Mitsubishi SP-MH216AF

Mitsubishi Electronics America, 991 Knox St., Torrance, CA 90502; (213) 217-5732

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$890

SCANNING RESOLUTION: 200 dots per inch

HARDWARE REQUIREMENTS: 640K IBM PC/XT/AT or compatible with hard-disk drive (minimum 1.2MB of free disk space); mouse recommended

GRAY-SCALE LEVELS: 16

SOFTWARE INCLUDED: HS scanning utility

DIMENSIONS: 1.8 by 2.2 by 10.3 inches

OPTIONS: Motorized automatic paper feeder SP-MH01FA (\$240); Scan Pack; scanner plus sheet feeder (\$995)

WARRANTY: 180 days



The Mitsubishi SP-MH216AF hand-held optical scanner is cleverly designed, versatile, and easy to use, offering first-rate ergonomic design and good image quality.

This scanner does what all scanners do: It reads a hard-copy original and transforms it into a pattern of dots that can be stored in a computer file and reproduced by a graphic printer. Scanners can capture solid lines (line art or text), images in several shades of gray, and continuous-tone (photographic) originals, in black and white or color.

Unlike less expensive hand-held scanners, this unit can scan an entire 8.5-by-11-inch page in one pass. For those who need to do this, the approximately threefold price increase may be more than justified. It can't, however, scan at resolutions of up to 800 dots per inch or capture as many as 256 shades of gray as can some flatbed scanners that cost at least twice as much. (*For comparative capabilities, see specifications above.*)

A special niche I see for the Mitsubishi SP-MH216AF is the scanning of full (uncut) pages from books—especially pages of text for optical character recognition (OCR)—that is, turning typed or printed pages into computer text files. Any OCR software package that uses the Tagged Image File Format (TIFF) will accept files produced by the SP-MH216AF. Some OCR packages, such as *Advantex* from Solutions Technology, have drivers for the SP-MH216AF built in, allowing users to read text directly (without first creating a TIFF file and then running that through OCR).

Installing the scanner couldn't be easier. The controller board fits in any free 8- or 16-bit expansion slot. Plugging the scanner cord into the back of the card via a snap-in connector completes hardware installation. To install the software, use DOS to make a subdirectory on your hard disk and copy the software (complete on one 360K disk) to it. The first time you run the software, it automatically identifies your video and mouse equipment and configures the system by loading the proper drivers. If you change your equipment, you can reconfigure the software.

The scanner is easy to use. Step one is loading the scanner software and selecting the scan option. Step two is gliding the scanner over the image while depressing the Scan button with your thumb. The scanner fits nicely in the hand and moves quite smoothly. And the designers thoughtfully provided guide marks to help you keep the unit lined up with the material being scanned. After a few seconds of processing, the scanned image is displayed on your monitor. I got the best image reproduction by moving the scanner slowly and evenly; a rapid or jerky motion tended to produce a distorted image. An optional motorized paper feeder, model SP-MH01FA, eliminates this problem but adds to the price. The scanner and feeder are sold together for \$995; purchased separately, the sheet feeder costs \$240.

Incidentally, the scanner achieves relatively accurate black-and-white tone reproduction of color originals. It uses a yellow-

The LASER 286/2 races through tasks at 6 or 12 MHz. Thirteen feature-packed configurations mean there's a 286/2 for every business or home use.



The LASER Turbo XT is switchable from 4.77 to 10 MHz. All nine configurations offer an impressive array of built-in features.

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green LED (light-emitting diode) to illuminate the material being scanned. (Scanners that use a red LED render red and reddish tones as white or near-white.)

The included scanning utility software gives users several scanning options. You can select one of two scanning modes—line art (solid lines) or halftone (dot patterns to simulate 16 shades of gray). You can also select data polarity (black on white or white on black) and image size (magnification or reduction) from the mouse-driven scan menu. (The scanner itself has a dial to fine-tune the image contrast.) The software also provides some graphics-editing capabilities, allowing you to rotate or flop the image, zoom in and out, and erase areas. More

extensive image editing calls for a paint package like *PC Paintbrush*.

Image files can be saved in .PCX, .ATX, or .TIF formats (three of the most widely used "image" or bit-mapped graphic file formats), easily chosen from well-designed pull-down menus. Mouse support is excellent, and the picture-manipulation commands are available on icons along the left of the screen as well as on the menus.

The scanner software did a poor job of displaying scanned halftones on my monitor and made line art look raggedy and filled in. When I pulled the saved image files into *PC Paintbrush*, however, they were surprisingly detailed and easy to edit.

The optional paper feeder uses the same

controller card as the scanner. Operating the scanner in this configuration is especially convenient; the paper feeds through smoothly with the touch of a button—great if you're doing high-volume or graphically critical work. An added bonus with the sheet feeder is an on-off switch for the scanner. Without the feeder (and switch), the scanner stays on as long as your PC is on.

Technical support for this product is mediocre at best. The manual doesn't list a support number, so it took me a few calls to even find the technical-support department. Once I did get through, the technicians I spoke with were pleasant but seemed unfamiliar with the scanner.

The excellent ergonomics are the Mitsubishi scanner's main attraction. If you regularly need to scan images wider than four inches, the convenience of this scanner will justify the price. —EVA BLINDER

TAKE THE SCENIC ROUTE

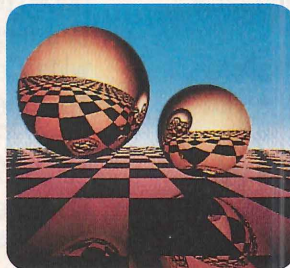


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Track Calls Via Computer

TimeScribe, Version 1.0

WordTech Systems, Inc., P.O. Box 1747, Orinda, CA 94563; (415) 254-0900

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$300

HARDWARE REQUIREMENTS: IBM PC/XT/AT or IBM PS/2 or compatible; 70K of free RAM

SOFTWARE INCLUDED: RAM-resident TimeScribe program

DIMENSIONS: PC half-length (6 by 4 inches)

WARRANTY: One year parts and labor; 30-day return; upgrades at nominal cost

For many home-based professionals, keeping track of time—especially time spent on the telephone—is crucial to keeping track of money.

TimeScribe is an automatic call-tracking system from WordTech Systems (publishers of the successful *dBase* work-alike, *dBXL*). It's designed to eliminate those marathon sessions with pencil, eyeshade, and monthly phone bill that punctuate the lives of lawyers, consultants, telemarketers, sales professionals, and others who live and die by the phone. It should contribute to the bottom line and the general mental health of any phone-dependent person.

An integrated hardware-software product, TimeScribe uses a relational database system to detail your telephone activity. One database, a standard Rolodex-style directory, stores names, numbers, and other information, such as billing rate, about the people you talk to. Another records details of both incoming and outgoing calls: the name of the other party, the time, duration, purpose, and results of the call, plus any



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These programs are available for Apple (128K) and MS-DOS (IBM and 100% compatibles, 256K) machines in both 5.25 and 3.5 inch disk sizes.

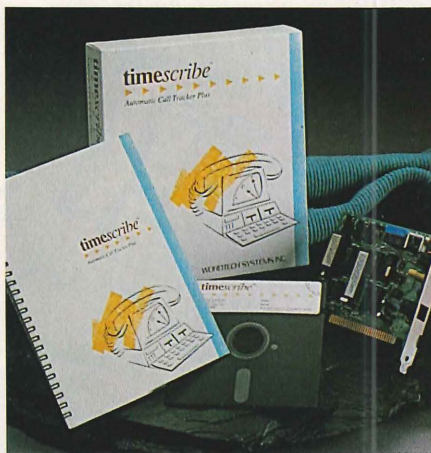
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(in Missouri 800-392-2179)

notes you may wish to take. TimeScribe's report generator draws data from various records to compile a number of useful reports, including monthly billing totals.

Installing the system is simple. TimeScribe's half-length board plugs into any available expansion slot and connects to a standard modular phone cord. Software installation is virtually automatic. (Although I encountered no problems, the user's manual mentions the possibility of conflicts between TimeScribe and other installed hardware options and suggest solutions.)

WordTech has gone to great lengths to make TimeScribe's operation as simple and automatic as possible. (The software is RAM-resident, and the system is automati-



cally activated whenever you pick up your phone.) But as with any database, to get the benefits you must first enter the necessary data or import the information from an existing *dBase III +* or *dBXL* database.

Call records are created through TimeScribe's pop-up window, which has fields for name of party, phone number, client or account ID, and call subject. There is also an electronic memo pad for taking notes during the call. To record billable time during a call, the user simply presses Alt-T. TimeScribe will look up the client's billing rate in the directory database and calculate the total charge.

Information can be exchanged between TimeScribe's phone directory and call-record databases in several ways. For example, a client's name can be searched in the directory, the number dialed automatically once located, and both name and number transferred automatically from the directory to the TimeScribe window to become part of the call record. This makes generating call records quick and easy.

Once you've put in all the information, what do you get? You get summary reports of your call activity. TimeScribe will produce reports either as a running log for a given date or range of dates or, alternatively, as a client-by-client listing, depending on your needs.

But there's more. TimeScribe provides instant on-line call history for any party in the directory. The Previous Call window can be accessed from the main TimeScribe window at any time; just tap F7 and up pop dates, times, and subjects of all calls to the party listed in the name field.

Also accessible from the TimeScribe window is a special Follow-Up window in which users can note specific actions that must be taken in the future. A daily follow-up report is automatically generated and can be printed out or displayed on-screen.

The number of records TimeScribe can store is limited only by the size of your hard-disk drive. Fortunately, the system is no space hog—about 1,500 records take up a mere 200K.

For all of the system's potential usefulness, it is worth pointing out that TimeScribe won't be effective unless the user is disciplined enough to keep the computer on all day and actually enter records every time a call is made. (Incidentally, the layout of your office becomes significant with TimeScribe. You must be able to comfortably use your computer and your telephone at the same time. Not everybody's work space is set up that way.)

For those who are willing to make the effort, TimeScribe should be a very valuable tool that saves you considerable time, money, and mental anguish.

—ELLIOT KING ■

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*George Walther, *Phone Power* (New York: Berkley Books, 1986).

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CIRCLE READER SERVICE 63

New Year's Resolution: Get Organized!

Four Programs to Help You Manage Time, Clients, Projects, and Contacts

If 1989 was a year to be buried under the weight of bulging telephone and address books, scraps of paper, and stacks of invoices, your troubles are over. The new year brings fresh hope of emerging from those piles unscathed. To help dig you out, we've rounded up four handy programs—from card files to full-featured organizers replete with expense tracking and billing—that will help you get a handle on your business. After you've read the reviews, check the chart for the organizer that best suits your needs. Happy New Year!

Our reviews of application software use shorthand to describe several of the details associated with any package. This is particularly true under "System Requirements"—where the minimum system configuration is noted—so we have provided the following table of computers for you to refer to as needed. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (*) is the type on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher. Since most productivity software is not copy protected, we have indicated—with the letters "CP"—only those programs that are copy protected. The version listed is the version reviewed; publishers may release subsequent versions at any time.

The Register Program integrates billing, names, addresses, and notes in a clever database that takes almost no time to set up.

Address-Book Program Loaded with Extras

The Register Program

VERSION REVIEWED: 4.0

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; two drives (hard-disk drive recommended); CGA, EGA, VGA, MCGA, MDA, or Hercules; DOS 2.0 or higher; 5.25-inch (3.5-inch available for \$5)

PUBLISHER: Applied Computing Services, 14410 S.E. Petrovitsky Rd., Suite 203, Renton, WA 98058; (206) 226-0765

PRICE: \$100

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★ ★

Designation	Models
128K Apple	IIe/IIc/IIGS (in IIe/c mode) and compatibles
128Ke Apple	IIe (enhanced ROM)/IIc/IIGS (in IIe/c mode)
Apple IIGS	IIGS only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

Ratings Key: ○ Poor; ★ Average; ★★ Good; ★★★ Very good; ★★★★ Excellent.

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

"Another address-book program," you say, "what a yawn!"

Maybe so, but *The Register Program* isn't just an address book. In fact, if you'd like to integrate billing, names, addresses, and notes in a clever database that takes almost no time to set up, *The Register Program* might be your best bet—if you can overlook the fact that it's not memory resident.

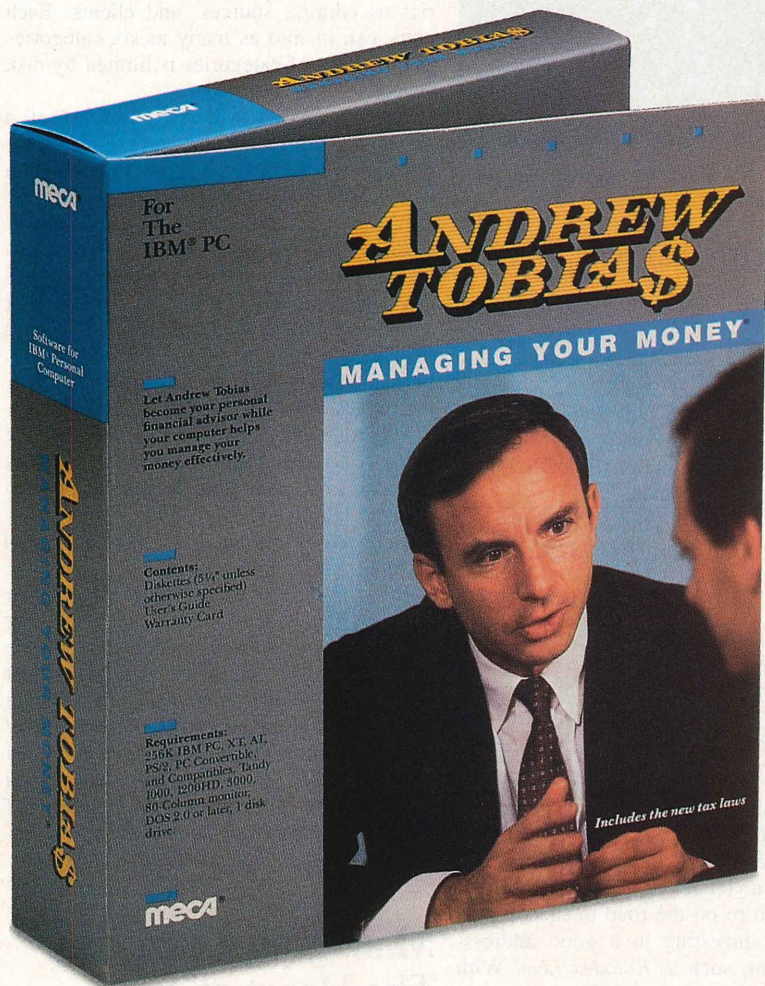
At first glance, the program looks conventional. It gives you all the fields (name, address, company, phone number, and birthday) you'd expect in a program like this. But there's more.

One special field, called Hyperlink, lets you create links between contact entries. These links can connect customers and suppliers, parents and children—anything.

Linking is versatile and powerful. Take my business as a freelance writer and editor, for example. With *The Register Program*, I can link coworkers in a publishing house. If one of the editors I'm trying to reach happens to be out to lunch, I can switch to the file for another editor with one keystroke. This way, while I'm getting guidelines for one project I can check on the deadline of another without being distracted by performing a lot of acrobatics on my computer.

The program also includes a flexible comments field that you can automatically label by date and time. You can search this comments file for text strings, making it easy to

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find comments that you've misplaced. If you wish to edit your comments, simply transfer them to an included clipboard and export the clipboard data to your word processor. The clipboard can be used for names and addresses, too. For someone who wants to link sales calls with follow-up letters, this is a handy feature.

One of *The Register Program's* best features is a fully integrated, easy-to-use billing system. This feature could replace an accounts-receivable function in a finance program. You access the billing screen from within a client record. There you can record hours worked and rates of pay, including special rates for rush work or overdue payments. You can also use this pop-up screen to record payments as they come in or to charge for items other than time, such as products.

Once you've customized the billing function to suit your needs (a task that won't take more than a few minutes), you can print out an invoice. This entails filling in a couple of blanks and pressing a key. *The Register Program* gives you a printed invoice and a record of what you're owed. Another feature produces a report of a client's billing and payment history.

You can also automate minimum payments and interest charges, include your name and address on invoices and—last but not least—import and export billing files to and from your spreadsheet in .WK1 format.

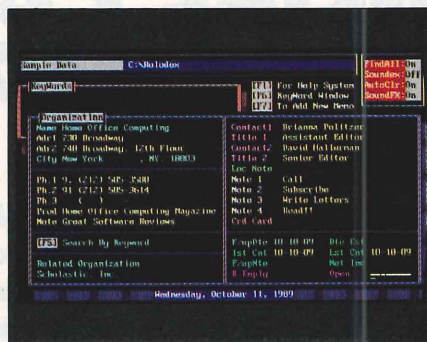
A flagging feature lets you categorize entries elaborately, which will help you perform searches. To go beyond the simplest types of searches, however, you will have to learn how to do Boolean searches (using *and*, *or*, and *not* as operators), which are explained both on-screen and in the manual.

Documentation includes extensive (sometimes too extensive) help screens and a clearly written manual. Toll-free technical support was easy to reach; the people were patient and generous.

I have two complaints about *The Register Program*. One is that it doesn't have a telephone dialer, which would seem to be a logical extension of this type of program. The second is, as I mentioned earlier, that it's not memory resident. It would be helpful to be able to access your client and contact files from within another application.

There are many programs on the market that can help you compile and arrange names and addresses, but I like *The Register Program*, because it is targeted to business use. If you haven't gotten around to organizing your contact and client files, you might consider this full-featured, easy-to-use program. Chances are it was created with someone like you in mind.

—LISA KLEINHOLZ



Rolodex Live! is a good option if you want to print out Rolodex cards or labels

Automate Your Rolodex

Rolodex Live!

VERSION REVIEWED: 0.99

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2; two 5.25-inch drives or one 3.5-inch drive (hard-disk drive optional); DOS 2.1 or higher; 5.25- and 3.5-inch

PUBLISHER: DacEasy, Inc., 17950 Preston Rd., Suite 800, Dallas TX 75252; (214) 248-0205

PRICE: \$50

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

As your business grows, so will your contact file. At some point, the overstuffed address pages in the back of your yearly calendar are no longer enough. This is often a sign that you're on the road to success, so celebrate by investing in a good address-book program, such as *Rolodex Live!* With this program, you can computerize your address book with ease and flexibility, even if you're new to computers.

The package includes continuous-form Rolodex cards for printer output (the program can print on both small and large cards). Anyone who still has one foot in the world of hard copy will appreciate this extra. Once you've experienced the retrieval abilities of the computer version, however, your card file will probably be out the door.

Rolodex Live! can be loaded either as a stand-alone application or as a memory-resident program that you can access with a single keystroke combination. Although the memory-resident mode is more convenient, it takes up about 130K of RAM—a big chunk to sacrifice. If RAM space is precious, you'll need the stand-alone mode.

Each contact entry resembles an on-screen Rolodex card. Names, addresses,

and telephone numbers are displayed on the left-hand side; the right serves as a space for miscellaneous information. Although you can't change the card format, a memo field is attached to each card.

You can categorize your entries; for example, a writer could develop such categories as editors, sources, and clients. Each entry can fit into as many as six categories (the number of categories is limited by disk space).

Help, accessed with F1, consists of a single screen listing the program's commands. A more detailed level of explanation can be reached by tapping F1 again. The 150-page manual is clear and well indexed.

Rolodex Live! won't let you make mistakes. For instance, you can't save an address or phone number without first entering a name. But if you do manage to make a mistake and need assistance, the company is helpful. The technician I spoke with knew the program well.

Although the ability to print Rolodex cards is a handy extra, it's even better that *Rolodex Live!* can print addresses on two sizes of labels and 7-by-9-inch continuous-form envelopes. It can also convert to ASCII for mail-merge applications.

Still, *Rolodex Live!* doesn't go far enough. The lack of phone dialer and log limits its ability to manage contacts. On the other hand, the \$50 price is hard to beat when you consider how well the program performs its appointed tasks. *Rolodex Live!* is a good option if you want to save money by dialing the phone yourself. And if you ever want to upgrade to a more powerful address-book program, you'll have an organized, lightning-fast Rolodex.

—CHARLES BERMANT

Managing Contacts—The Heart of Your Business

Expeed

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2 (640K recommended); two drives or one drive and a hard-disk drive; DOS 2.1 or higher; 3.5- and 5.25-inch

PUBLISHER: Eighty/20 Software, 126 W. Rock St., Mankato, MN 56001; (612) 587-8020

PRICE: \$149

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★

SUPPORT: ★ ★ ★

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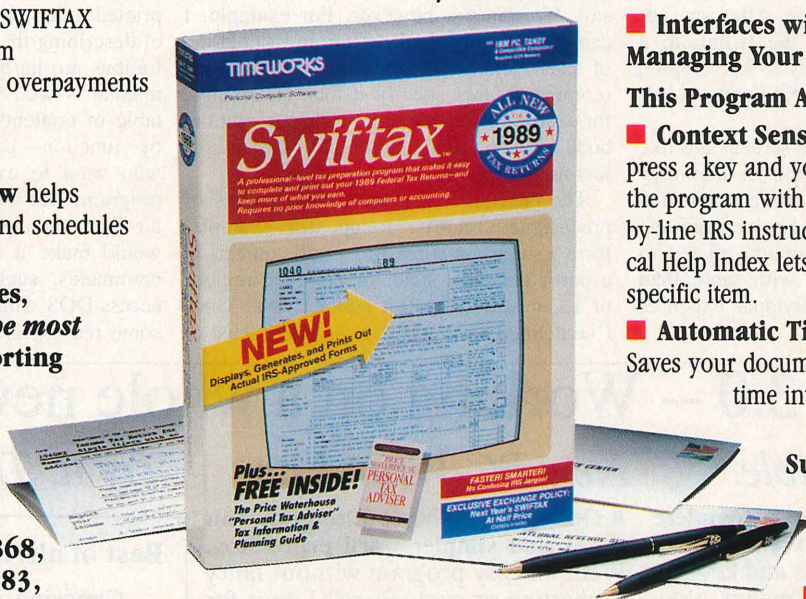
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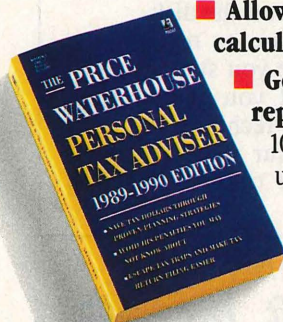
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CIRCLE READER SERVICE 62

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**Based on the 1986 IRS Adjusted Gross Income ranges.

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As a computer journalist, I need to keep in touch with (among others) editors, public-relations directors of software firms, and various experts. To keep track of all these people, I need a good contact-management program. *Expeed* not only helps me record basic information, such as addresses and phone numbers, but it automatically dials the telephone and prints addresses onto envelopes.

Expeed provides 13 data fields to record standard name, address, and telephone information, plus a client number unique to each record, and 10 spaces to define sort criteria. The program tracks the date of last contact.

The program also includes a calendar that lets me maintain a schedule for each client, complete with dates, times, and descriptions of upcoming appointments. After an appointment, I can transfer the listing to a history file with a single keystroke, keeping the current schedule uncluttered without losing important details.

The history and schedule screens are like the client information screen in that they allow 15-page memos for information that doesn't fit standard address-book categories. I can also print expense reports related to each account. A business with more than one employee can list individual expenses for each employee.

Expeed tracks the relationships that keep small businesses rolling.

A built-in word processor lets me create and print individual or multiple letters. The mail-merge feature is not as complete as, say, *WordStar's*, however. For example, I can change only the heading and salutation of each letter—no conditional commands (commands that specify if-then statements, for example) are available. I have to edit the body of each letter individually. *Expeed* offers no underlining or italics.

The program can print a wide variety of predesigned reports. I can, for example, form a subgroup consisting of all contacts in a particular city, state, or zip-code region, or I can search by last contact date. Once I've defined a subgroup, I can make a list of

all its members, print out the schedule and history of each, or compile statistics. For instance, with this last option, I can find out how many telephone calls I made while researching a particular article. Someone with a sales-oriented business could use *Expeed* to find out how many clients are listed in each zip code.

Expeed's expense-tracking option lets me enter the date and type of expense along with a short description. Later I might print a report showing how much a particular project cost, determine how much I've been spending on work-related travel, or calculate reimbursements for telephone expenses. This information is especially useful at tax time, but it also helps me monitor expenses throughout the year.

The home-brewed documentation—laser printed and spiral bound—does a good job of describing the product, but the only illustrations are hard-to-see screen images. The manual is well indexed and has a detailed table of contents. Information is organized by function—helpful for first-time users who want to explore every corner of the program. But when searching for a particular fact, an alphabetical reference section would make it easier to find less obvious commands, such as the one that lets you access DOS while using *Expeed* (which, for some reason, is on the printer setup menu,

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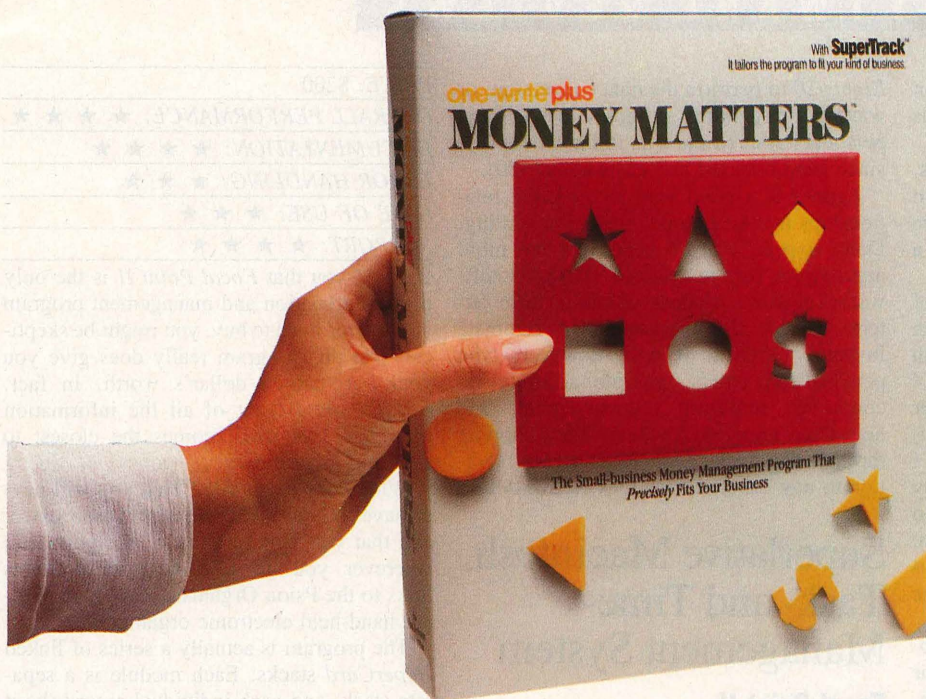
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CIRCLE READER SERVICE 37

and is therefore listed in the print-function section of the manual). The program has excellent, context-sensitive help.

Expeed reminds me to save my files. Stray keystrokes don't cause the program to terminate abnormally, and typing errors are easily corrected. If I need to interrupt a large print job, I press Escape.

The program is streamlined for ease of use. A pop-up notepad lets me jot down information without leaving *Expeed*. I can save the notepad and print it on paper; but I can't, unfortunately, print to disk or transfer the notepad's data to another file. All commands are selected from menus, so there's nothing to memorize. Pressing one key brings up the function, so I don't need to press Enter each time. The default values are usually appropriate, and if I get into a function I don't want, pressing Escape backs me out, as does Q (for Quit).

Unlimited, free telephone support is provided for all registered users who recite their serial numbers to the answering technician. While testing the program, I wanted to convert an already existing database file to a format that could be read by *Expeed*. I called the toll-free support number for help and my question was answered promptly. Unfortunately, since my 200-record file wasn't in *dBase* format, I had to choose between retyping the data, paying \$50 for

Eighty/20 to perform the data conversion, or waiting for a utility program that support personnel assured me was in the works (it's since been released and costs about \$50).

Expeed is a good way to track the relationships that keep small businesses rolling. Don't expect it to do tasks that are more appropriate for generalized database software—it won't produce complex form letters, balance the checkbook, or automate inventory control. It will, however, type personalized letters, provide accurate records for employee reimbursement, and help keep important contacts from slipping through the cracks. *Expeed* is a good addition to any business. —TAN A. SUMMERS

Superlative Macintosh Task- and Time-Management System

Focal Point II

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 1MB Macintosh; hard-disk drive; *HyperCard* (included); System 4.2 or higher

PUBLISHER: TENpointO/Mediagenic, 3885 Bohannon Dr., Menlo Park, CA 94025; (415) 329-0500

PRICE: \$200

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

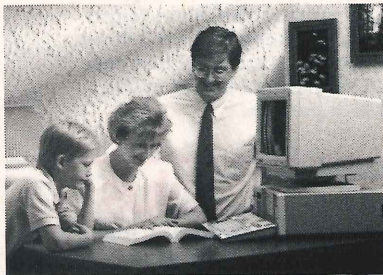
SUPPORT: ★ ★ ★ ★

If I told you that *Focal Point II* is the only office automation and management program you'd ever need to buy, you might be skeptical. But this program really does give you your hard-earned dollar's worth. In fact, *Focal Point II*, out of all the information managers I've tried, comes the closest to fulfilling its promises.

What does it promise? That you will never have to type the same information twice; and that you will be able to take your data wherever you go (the program provides links to the *Pision Organiser* and *Sharp Wizard* hand-held electronic organizers).

The program is actually a series of linked *HyperCard* stacks. Each module is a separate stack, and each individual record (be it daily schedule, client record, or expense report) functions as a separate card (or screen, in non-*HyperCard* terminology). As a shortcut, you can install up to 16 buttons on-screen, each of which will take you directly to one of *Focal Point II*'s modules. These buttons let you skip the extra step of navigating through menus or returning to

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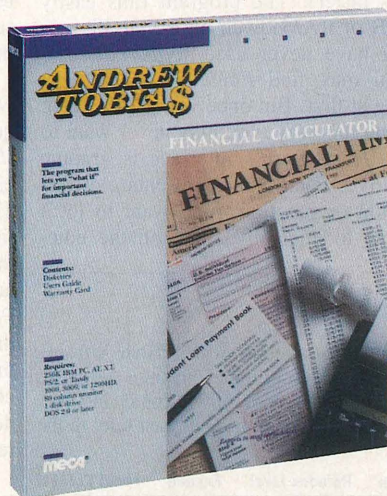
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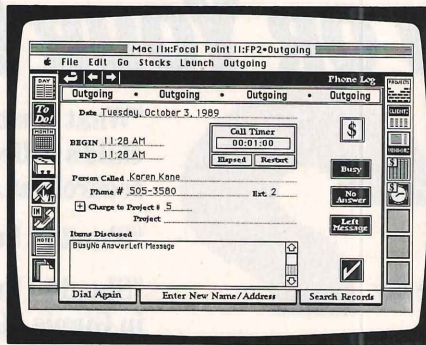
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HyperCard's Home stack every time you want to move among modules.

The installation program also lets you specify which of the program's 18 modules you want to use and which ones you want to leave behind. Among the options are appointment calendars (daily, weekly, and monthly), an address book (with dialer, logging features, and space for comments), travel-expenses tracking, a file-management and document-launching function, a daily to-do list that will automatically move uncompleted items to the next day's list, a client file, a vendor file, a task manager, a project manager, and more.

Focal Point II understands the relationships among the different components of your business. For example, if you needed to order office supplies, you'd just look up the supplier's name in your vendor directory and use the program to dial the telephone number. Then, after you'd placed your order, you could use *Focal Point II* to record the details of the order, such as expected delivery date, without leaving the program. All of the modules have access to the information you enter. As promised, there's no need to key in anything more than once.

Menu selections can also lead you to your word processor or spreadsheet program.



Focal Point II fulfills what it promises: you'll never have to type the same data twice.

You can quickly switch between your business applications and *Focal Point II* using the document launcher (although Multi-Finder is faster). The program runs easily with 1MB of RAM, even on a Mac Plus.

If you have never used *HyperCard* before, you may find *Focal Point II* overwhelming at first. But once you get the hang of working this way, you may never want to go back. *HyperCard's* interface is graphic and intuitive. Each icon represents a different module or function. You want to jot a quick note to yourself? Click on the note-

pad. It's as simple as that.

Some modules are easier to learn than others. For example, while the calendars were straightforward enough, I had to refer to the documentation for help with the invoicing function. But, again, once I got the hang of it, it felt natural.

Focal Point II comes with an excellent manual, which begins with a tutorial for newcomers. It introduces one or two modules at a time, explains what they can be used for, and shows how to use them. As you progress through the tutorial, it uses information you've entered to show you how the various modules work together.

The program also has an on-line help section that shows you how to use each module, although not in the same detail as the manual. *Focal Point II* has many features, and, in the beginning, I found myself referring to this on-line help to remind myself of all of the things I could do with the program. Later, it was just a nice refresher.

The only time I had a significant problem with the program was when I encountered a quirk in the interaction between *Focal Point II* and *HyperCard*. My modem has a speaker that allows me to hear it dial the phone. This way I know it's working, and if the line is busy, I hear the busy signal. When the connection is completed, the speaker automatically shuts off. When I used *Focal Point II* to dial the telephone, the modem did not get the signal it needed to turn off the sound. Because of this, I could hear my conversation through the speaker in the modem as well as from my telephone's receiver.

When I called technical support for help, I explained that the modem speaker was not turning off. The pleasant person on the other end of the phone told me about the bug in *HyperCard*. He told me that I could download a fix from the company's bulletin board, or he would mail it to me, if I preferred. When I called the bulletin board, I downloaded the repair program in a minute and a half (talk about a quick fix). The bulletin board also had a program update and several other utilities.

If you run a service business and have little need for financial software, other than for invoicing and expense tracking, you may be able to use *Focal Point II* as your main office manager. Along with your word processor (and possibly a database and spreadsheet if you use them), it just may be all you need. If you have an inventory-based business, *Focal Point II* can serve not only as a helpful organizational tool, but also as a convenient shell program from which you can access your other applications. The seamlessness of its modules makes it easy for you to tame and organize your data—without having to change the way you think.

—BROOKS HUNT

FEATURES AT A GLANCE

The following chart outlines what we felt were the most important features of these four software packages. These programs vary in function and intent: Rolodex Live!, for example, makes no promises of tracking your expenses or scheduling tasks but costs much less than more fully featured software, such as *Exped*. Identify the program that best suits your business and your budget, then refer to the reviews for a closer look.

	The Register Program	Rolodex Live!	Exped	Focal Point II
Price	\$100	\$50	\$249	\$200
Dials Telephone	No	No	Yes	Yes
Telephone Log	No	No	No	Yes
Calendar	No	No	Yes	Yes
Tickler Alarms	No	No	No	Yes
Notes/Comments Fields	Yes	Yes	Yes	Yes
Manages Tasks	No	No	Yes	Yes
Generates Reports	Yes	Yes	Yes	Yes
Billing/Invoicing	Yes	No	No	Yes
Text Editor	No	No	Yes	Yes
Mail Merge	No	Yes	Yes	Yes
Prints Labels	Yes	Yes	Yes	Prints Envelopes
Advanced Search/Sort Capabilities ¹	Yes	No	Yes	No
Prints Rolodex Cards	Yes	Yes	Yes	No
Memory Resident	No	Yes	No	Yes ²
Tracks Expenses	No	No	Yes	Yes
Imports/Exports Data Files	Yes ³	Yes ⁴	Yes ⁵	Yes ⁶
Links to Psion and Sharp Wizard Electronic Organizers	No	No	No	Yes

KEY: ¹includes ability to sort data and search using operators (i.e., and, or, and not) or by employing filters (such as searching for all records that have the same zip code) ²Provides access to other applications from within program ³Imports and exports ASCII files between comments fields and word-processing programs and imports and exports spreadsheet data in .WK1 format ⁴Imports and exports dBase and ASCII formats ⁵Exports ASCII and imports and exports dBase files ⁶Imports and exports ASCII word-processor data

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- Standard deduction/earnings type pre-set
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- Tracks complete 1099 information
- Past due and until due aging report formats

Accounts Receivable

- Open-item/balance forward customer accounts
- User defined terms and aging categories

Invoicing

- Automatic sales tax calculation
- Optional user-defined message on invoices
- Automatic backordering (w/inventory module)
- Service and Product invoices

Fixed Assets

- Depreciation schedules, acquisition/disposition

Job Costing

- Automatic interface with Payroll and Accounts Payable modules reduces data entry
- Tracks jobs from bidding through completion

Inventory

- Automatically updates general ledger for COGS
- Automatically updated (by invoicing module)
- Average, standard or user specified cost methods

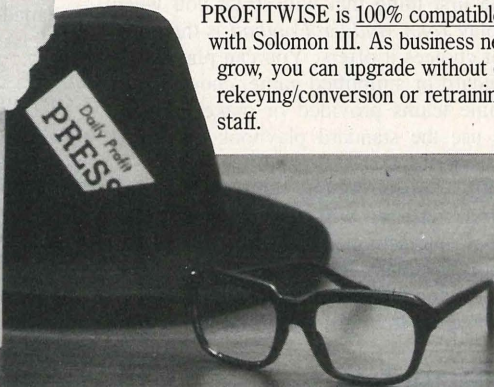
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(Add \$10.00 for shipping & handling)

PROFITWISE™

Hardware Requirements: All IBM PC/XT, AT, PS/2, COMPAQ and 100% compatible computers. PC-DOS or MS-DOS 3.1 or higher. 640K RAM. 5.25" & 3.5" Available. Minimum 10 MB available space on hard disk. Printer capable of 132 columns (normal or condensed). Solomon III, PROFITWISE registered trademarks of TLB Inc. Other products mentioned are registered trademarks of their respective companies. HOC1

CIRCLE READER SERVICE 56

**More
Power to
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America**



Learning and Leisure

Kieran v2.0

SYSTEM REQUIREMENTS: 128K Macintosh

PUBLISHER: Ohm Software Company, 163 Richard Dr., Tiverton, RI 02878; (401) 253-9354, (800) 346-9034

PRICE: \$40

SUGGESTED AGES: 2-6

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★

EASE OF USE: ★ ★ ★

This interactive skills builder for preschoolers uses music, sound, and eye-catching graphics to reinforce basic verbal and math skills, while keeping youngsters entertained. When children play *Kieran*, they also learn the location of keys, become acquainted with the mouse, and pick up time-telling techniques. One of the few good Mac programs for this age group.

—CAROL S. HOLZBERG

BannerMania

PUBLISHER: Broderbund Software, 17 Paul Dr., San Rafael, CA 94903-2101; (415) 492-3500

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2; CGA, Hercules, EGA, ETGA, or VGA; printer with graphics capabilities; mouse optional; DOS 2.1 or higher; 5.25- and 3.5-inch

PRICE: \$35

SUGGESTED AGES: 8-adult

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★

I am a terrible artist. So, when I needed to create a sign for the aerobics class that I teach part-time, I wasn't about to try my hand at drawing one from scratch. *BannerMania*, one of the latest packages from Broderbund, helped me design a sensational banner that has boosted class attendance. With *BannerMania*, you can create banners or signs with one or two lines of text, 63 characters per line. Sound limited? Not by a long shot. Those two lines of text can be in any of 19 fun and interesting fonts, with great special effects.

Without so much as a sideways glance at the documentation, I copied *BannerMania* onto my hard-disk drive, booted it up, chose

a big, bold font for my sign, and customized my design with options from the Effects menu. Experimenting with italics, outlines, and shadows was just the beginning. You can also select shapes (such as rectangle, pennant, arched, concave, convex, teardrop, and paisley), colors, and printing options. An added plus is the more than 50 ready-made banners you can modify.

I was not at all disappointed with the output from my antique Epson dot-matrix printer (although it took close to forever—about 40 minutes—to print out). Even on an HP LaserJet, the program was no speed demon. It took almost 20 minutes to finish printing one of my more complex designs; but it was definitely worth the wait. All in all, *BannerMania* is a blast.

—BRIANNA POLITZER

John Madden Football

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2*; EGA, CGA; 5.25-inch disks. Also for 64K Apple; 5.25- and 3.5-inch

PUBLISHER: Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404; (415) 571-7171

PRICE: \$50

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

PLAY SYSTEM: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★

Let me make one thing crystal clear: This is the best PC football game I have ever seen. It combines strategy and action perfectly. It is not too complicated. And it has just about every feature that an armchair quarterback could ever want.

The first thing that will strike you when you play *John Madden Football* is the number of choices it offers. You can play either a standard or simplified game; choose from the nine teams provided or make up your own; use the standard playbook or design your own plays.

With so many options, both novices and gridiron veterans will find *John Madden Football* interesting. Its superb graphics and smooth play make for exciting action. Plus, it has the football smarts of John Madden to challenge the strategist. —STEVE WILLIAMS

688 Attack Sub

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2; CGA, EGA, VGA, or Hercules; 5.25-inch

PUBLISHER: Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404; (415) 571-7171

PRICE: \$50; \$13 for clue book

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

PLAY SYSTEM: ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★

In *688 Attack Sub*, you command either an American Los Angeles or a Soviet Alpha class submarine. Playing against the computer or against a friend via modem, you can try your hand at a variety of espionage, escort, and combat missions. Each has two levels of difficulty, and most can be played from either the American or the Soviet point of view.

688 Attack Sub combines state-of-the-art submarine technology with easy-to-use controls. The game's most interesting feature to me is the difference between the American and Soviet subs. For instance the Soviet sub has a faster maximum speed. And, the controls for the two vessels are laid out differently.

The action in *688 Attack Sub* is made up of long stretches of hunting and hiding and short periods of combat. You need to use all your skills and cunning, as well as all the high-tech equipment, to outsmart your opponent during the hunting and hiding. But once the combat starts, there are plenty of powerful weapons and spectacular explosions to keep things interesting.

—STEVE WILLIAMS

Arkanoid II: Revenge of Doh

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2* w/CGA or Hercules (384K w/EGA or VGA); DOS 2.1 or higher; 5.25- and 3.5-inch. Also for 512K Apple IIGS, 512K Atari ST, C 64

PUBLISHER: Taito Software, Inc., 267 W. Esplanade, North Vancouver, BC, Canada V7M 1A5; (604) 984-3040

PRICE: \$35-\$38

COPY PROTECTED: Yes

OVERALL RATING: ★ ★ ★

DOCUMENTATION: ★ ★

PLAY SYSTEM: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

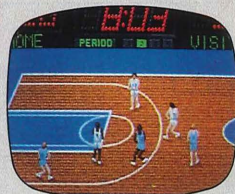
EASE OF USE: ★ ★ ★

Not just another dull rehash of the *Breakout*-style arcade game, *Arkanoid II* sets new standards of sights, sounds, and excitement. Your palms will start to sweat as you discover all the little extras in this *Arkanoid* sequel. Can you remain calm as up to 16 balls blaze across your screen? That's not all: The game comes with a construction set that lets you redesign any of its 66 levels, except for the mystery level and the final level. So what's the last word on *Arkanoid II: Revenge of Doh*? Revenge is sweet.

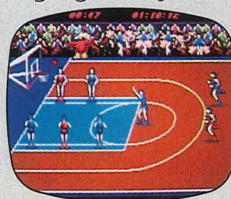
—JEFF DONAHUE

DESK TOP STUFFING.

Konami is cooking now, with a hot computer game that gives you complete control of world championship caliber basketball, featuring Chicago, New York, Boston and LA.



From the opening tip, it's 5 on 5, full court, board crashing action, highlighted by blocks, steals, picks,



foul shots, 3 point bombs and 3 kinds of slams — the Gorilla, the Rim Rockin' Reverse

and the In-Your-Face Jam!

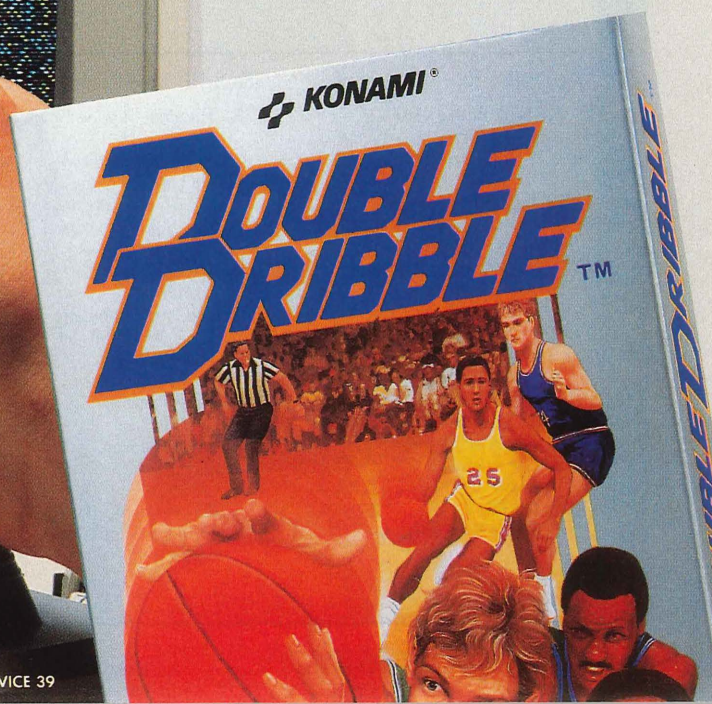
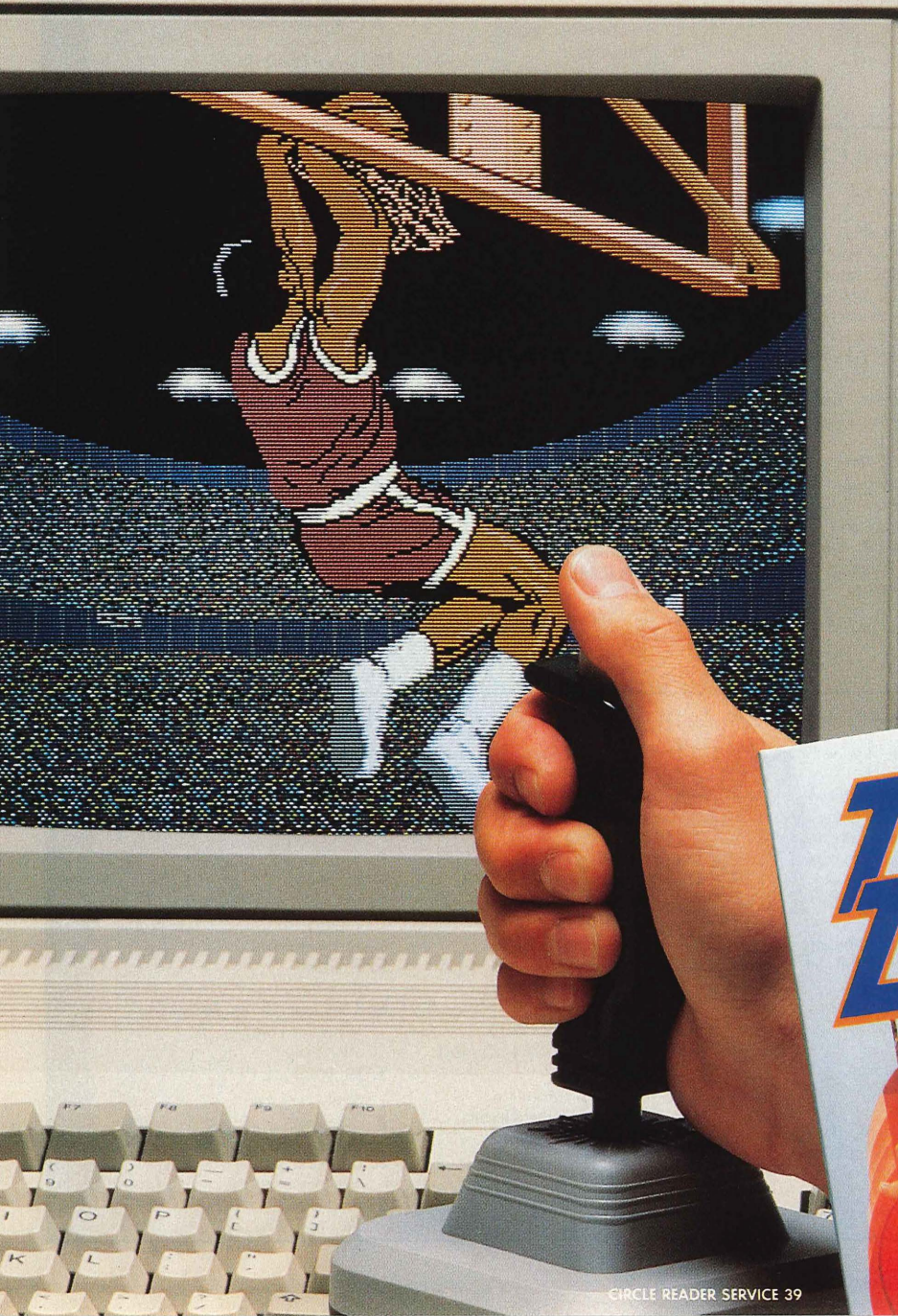
Two can play at this game, or you can challenge the computer. Either way, it'll take all the runnin' and gunnin' you can muster if you hope to savor the taste of victory.



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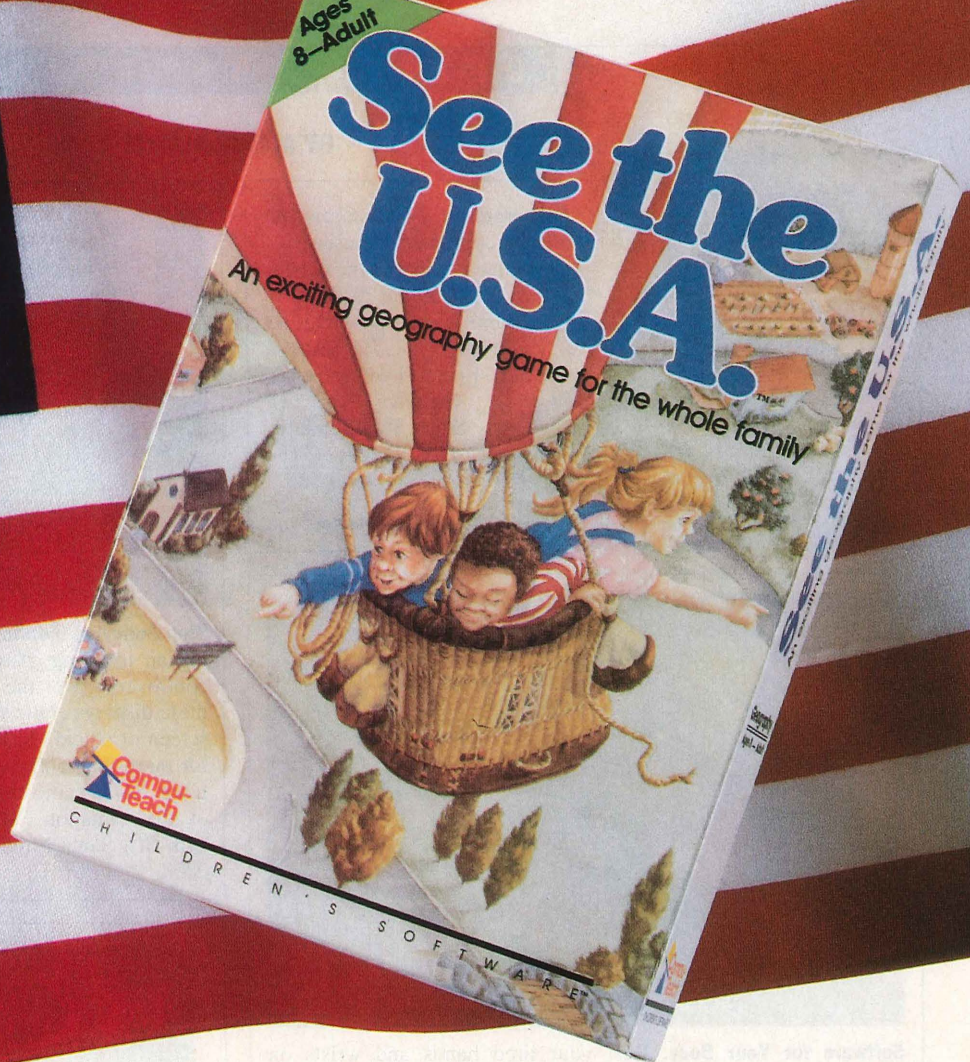
Double Dribble is available for IBM. Also Commodore and Amiga in early 1990.





These best seller lists, prepared exclusively for HOME-OFFICE COMPUTING by Egghead Discount Software, are based on September sales at 202 Egghead stores in the United States and Canada.

I B M	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	I B M
	<ol style="list-style-type: none"> 1. Lotus 1-2-3 <i>Lotus Development Corp.</i> 2. WordPerfect v5.0 <i>WordPerfect Corp.</i> 3. Windows/286 v2.1 <i>Microsoft Corp.</i> 4. PFS: First Publisher v2.0 <i>Software Publishing Corp.</i> 5. Works v1.05 <i>Microsoft Corp.</i> 6. Word v5.0 <i>Microsoft Corp.</i> 7. SpinRite <i>Gibson Research</i> 8. RightWriter v3.1 <i>RightSoft, Inc.</i> 9. Professor DOS w/SmartGuide for DOS <i>Individual Software, Inc.</i> 10. First Choice v3.0 <i>Software Publishing Corp.</i> 	<ol style="list-style-type: none"> 1. Quicken v3.0 <i>Intuit, Inc.</i> 2. The New Print Shop <i>Broderbund Software</i> 3. PC USA <i>PC Globe, Inc.</i> 4. BannerMania <i>Broderbund Software</i> 5. Managing Your Money v5.0 <i>MECA</i> 6. Calendar Creator Plus <i>Power Up! Software</i> 7. PC Paintbrush IV <i>ZSoft/Medigenic</i> 8. Résumé Kit <i>Spinnaker Software</i> 9. PC Globe v3.0 <i>PC Globe, Inc.</i> 10. PrintMaster Plus <i>Unison World</i> 	<ol style="list-style-type: none"> 1. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 2. Where in Time Is Carmen Sandiego? <i>Broderbund Software</i> 3. Learning DOS v2.0 <i>Microsoft Corp.</i> 4. Where in the USA...? <i>Broderbund Software</i> 5. Reader Rabbit <i>The Learning Company</i> 6. Math Blaster Plus <i>Davidson & Associates</i> 7. Where in the World...? <i>Broderbund Software</i> 8. Children's Writing & Publishing Center <i>The Learning Company</i> 9. Think Quick! <i>The Learning Company</i> 10. Magic Spells <i>The Learning Company</i> 	<ol style="list-style-type: none"> 1. Flight Simulator v4.0 <i>Microsoft Corp.</i> 2. SimCity <i>Maxis Software/Broderbund</i> 3. Operation Wolf <i>Taito Software</i> 4. 688 Attack Sub <i>Electronic Arts</i> 5. F-15 Strike Eagle II <i>Microprose</i> 6. Indiana Jones and the Last Crusade: The Graphic Adventure <i>LucasFilm Games/EA</i> 7. Hoyle's Book of Games <i>Sierra On-Line</i> 8. Vette! <i>Spectrum HoloByte</i> 9. The Chessmaster 2100 <i>The Software Toolworks/EA</i> 10. Space Quest III <i>Sierra On-Line</i> 	
	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	
	<ol style="list-style-type: none"> 1. MyMailList <i>MYSoftware</i> 2. Word v4.0 <i>Microsoft Corp.</i> 3. PageMaker v3.0 <i>Aldus Corp.</i> 4. Excel v2.2 <i>Microsoft Corp.</i> 5. Works v2.0 <i>Microsoft Corp.</i> 6. WriteNow v2.0 <i>T/Maker Company</i> 7. atOnce! v1.0 <i>Layered, Inc.</i> 8. Simply Accounting v1.03 <i>Computer Associates</i> 9. MacWrite II <i>Claris Corp.</i> 10. SuperCard <i>Silicon Beach Software</i> 	<ol style="list-style-type: none"> 1. Quicken v1.5 <i>Intuit, Inc.</i> 2. The Print Shop <i>Broderbund Software</i> 3. Calendar Creator v1.0 <i>Power Up! Software</i> 4. World Class Fonts <i>Double-Click Software</i> 5. Managing Your Money <i>MECA</i> 6. PosterMaker Plus <i>Broderbund Software</i> 7. Thunder II <i>Electronic Arts</i> 8. Will Maker v3.0 <i>Nolo Press</i> 9. Family Matters <i>Springboard Software</i> 10. For the Record v1.03 <i>Nolo Press</i> 	<ol style="list-style-type: none"> 1. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 2. Where in the World Is Carmen Sandiego? <i>Broderbund Software</i> 3. Where in the USA Is Carmen Sandiego? <i>Broderbund Software</i> 4. Number Maze <i>Great Wave Software</i> 5. Talking Reader Rabbit <i>The Learning Company</i> 6. Manhole <i>Medigenic</i> 7. Math Blaster <i>Davidson & Associates</i> 8. Type! <i>Broderbund Software</i> 9. Math Rabbit <i>The Learning Company</i> 10. The Dinosaur Discovery Kit <i>First Byte/EA</i> 	<ol style="list-style-type: none"> 1. SimCity <i>Maxis Software/Broderbund</i> 2. Falcon v2.0 <i>Spectrum HoloByte</i> 3. Flight Simulator v1.02 <i>Microsoft Corp.</i> 4. Sargon IV <i>Spinnaker Software</i> 5. Leisure Suit Larry <i>Sierra On-Line</i> 6. Manhunter New York <i>Sierra On-Line</i> 7. Crystal Quest v2.2 <i>Casady & Greene, Inc.</i> 8. Crazy Cars <i>Titus Software Corp.</i> 9. SimCity Supreme <i>Maxis Software/Broderbund</i> 10. Tetris <i>Spectrum HoloByte</i> 	
M A C I N T O S H	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	M A C I N T O S H
	<ol style="list-style-type: none"> 1. AppleWorks v3.0 <i>Claris Corp.</i> 2. WordPerfect v1.1 <i>WordPerfect Corp.</i> 3. Publish-It v2.0 <i>Timeworks, Inc.</i> 4. WordPerfect v2.1 <i>WordPerfect Corp.</i> 5. AppleWorks GS <i>Claris Corp.</i> 6. Graph-It! <i>Timeworks, Inc.</i> 7. Wordbench <i>Addison-Wesley Publishing</i> 8. GEOPublish <i>Berkeley Softworks</i> 9. List & Mail <i>Avery</i> 10. GS File <i>Brown Waugh</i> 	<ol style="list-style-type: none"> 1. The Print Shop w/Graphics Library <i>Broderbund Software</i> 2. Bank Street Writer Plus <i>Broderbund Software</i> 3. Quicken <i>Intuit, Inc.</i> 4. MyMailList <i>MYSoftware</i> 5. The Print Shop Party Graphics <i>Broderbund Software</i> 6. MyLabelMaker <i>MYSoftware</i> 7. Print Magic <i>Epyx, Inc.</i> 8. Family Matters <i>Springboard Software</i> 9. GEOFile <i>Berkeley Softworks</i> 10. The Print Shop Companion <i>Broderbund Software</i> 	<ol style="list-style-type: none"> 1. Math Blaster Plus <i>Davidson & Associates</i> 2. Where in the World Is Carmen Sandiego? <i>Broderbund Software</i> 3. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 4. Children's Writing & Publishing Center <i>The Learning Company</i> 5. Magic Spells <i>The Learning Company</i> 6. Reader Rabbit <i>The Learning Company</i> 7. Where in the USA Is Carmen San Diego? <i>Broderbund Software</i> 8. Mixed Up Mother Goose <i>Sierra On-Line</i> 9. Reading and Me <i>Davidson & Associates</i> 10. Think Quick! <i>The Learning Company</i> 	<ol style="list-style-type: none"> 1. The Last Ninja <i>Medigenic</i> 2. Arkanoid II: The Revenge of Doh <i>Taito Software</i> 3. The Duel: Test Drive II <i>Accolade</i> 4. Chuck Yeager's Advanced Flight Trainer <i>Electronic Arts</i> 5. Hardball <i>Accolade</i> 6. TV Game Shows: Jeopardy/ Wheel of Fortune <i>ShareData</i> 7. King's Quest IV <i>Sierra On-Line</i> 8. Zany Golf <i>Electronic Arts</i> 9. Strike Fleet <i>Electronic Arts</i> 10. Wasteland <i>Electronic Arts</i> 	
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	<ol style="list-style-type: none"> 1. AppleWorks v3.0 <i>Claris Corp.</i> 2. WordPerfect v1.1 <i>WordPerfect Corp.</i> 3. Publish-It v2.0 <i>Timeworks, Inc.</i> 4. WordPerfect v2.1 <i>WordPerfect Corp.</i> 5. AppleWorks GS <i>Claris Corp.</i> 6. Graph-It! <i>Timeworks, Inc.</i> 7. Wordbench <i>Addison-Wesley Publishing</i> 8. GEOPublish <i>Berkeley Softworks</i> 9. List & Mail <i>Avery</i> 10. GS File <i>Brown Waugh</i> 	<ol style="list-style-type: none"> 1. The Print Shop w/Graphics Library <i>Broderbund Software</i> 2. Bank Street Writer Plus <i>Broderbund Software</i> 3. Quicken <i>Intuit, Inc.</i> 4. MyMailList <i>MYSoftware</i> 5. The Print Shop Party Graphics <i>Broderbund Software</i> 6. MyLabelMaker <i>MYSoftware</i> 7. Print Magic <i>Epyx, Inc.</i> 8. Family Matters <i>Springboard Software</i> 9. GEOFile <i>Berkeley Softworks</i> 10. The Print Shop Companion <i>Broderbund Software</i> 	<ol style="list-style-type: none"> 1. Math Blaster Plus <i>Davidson & Associates</i> 2. Where in the World Is Carmen Sandiego? <i>Broderbund Software</i> 3. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 4. Children's Writing & Publishing Center <i>The Learning Company</i> 5. Magic Spells <i>The Learning Company</i> 6. Reader Rabbit <i>The Learning Company</i> 7. Where in the USA Is Carmen San Diego? <i>Broderbund Software</i> 8. Mixed Up Mother Goose <i>Sierra On-Line</i> 9. Reading and Me <i>Davidson & Associates</i> 10. Think Quick! <i>The Learning Company</i> 	<ol style="list-style-type: none"> 1. The Last Ninja <i>Medigenic</i> 2. Arkanoid II: The Revenge of Doh <i>Taito Software</i> 3. The Duel: Test Drive II <i>Accolade</i> 4. Chuck Yeager's Advanced Flight Trainer <i>Electronic Arts</i> 5. Hardball <i>Accolade</i> 6. TV Game Shows: Jeopardy/ Wheel of Fortune <i>ShareData</i> 7. King's Quest IV <i>Sierra On-Line</i> 8. Zany Golf <i>Electronic Arts</i> 9. Strike Fleet <i>Electronic Arts</i> 10. Wasteland <i>Electronic Arts</i> 	
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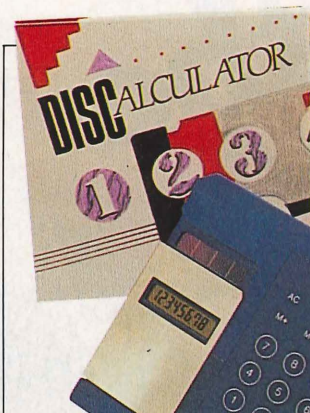


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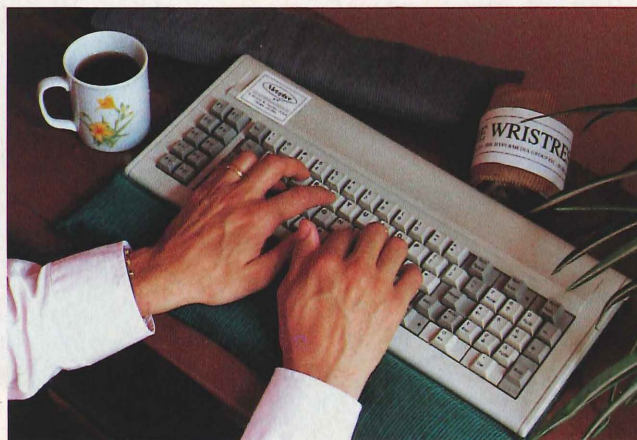
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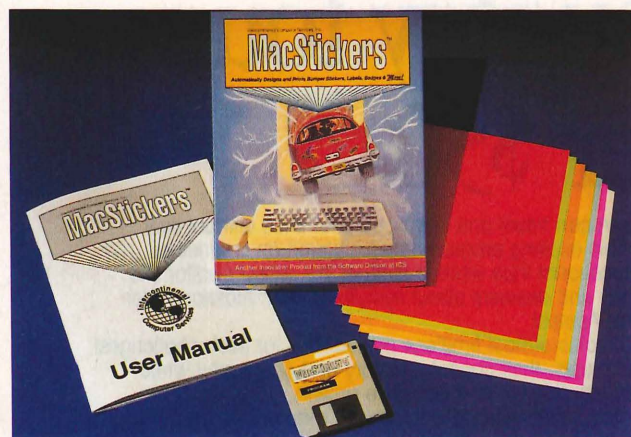
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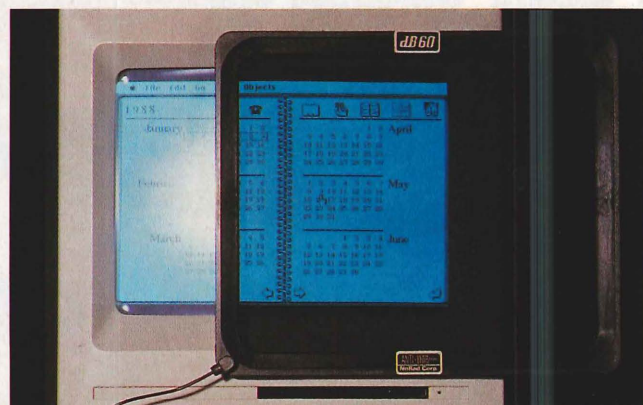
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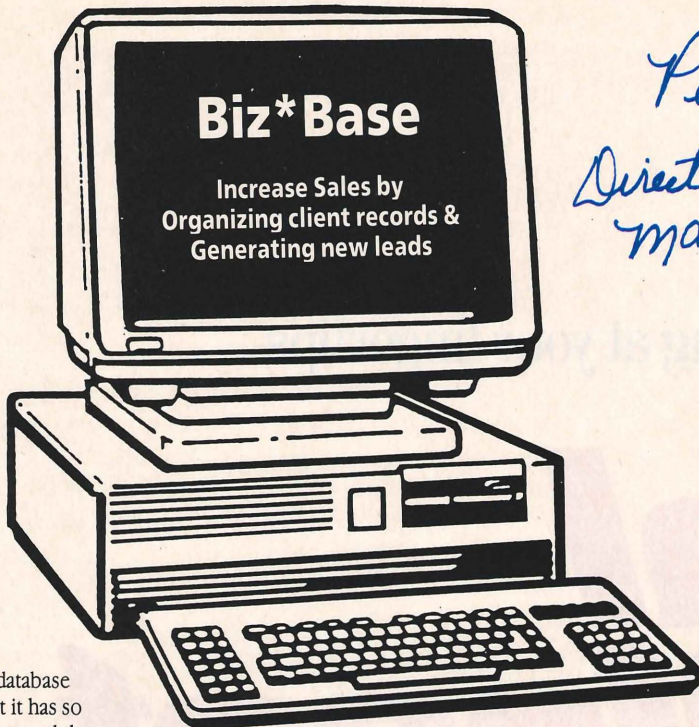
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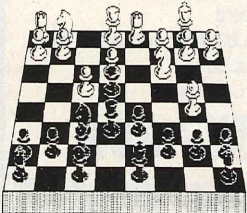
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DRACULA IN LONDON (GAM 94) Great graphics game based on novel (CGA)



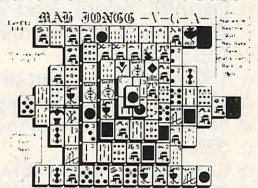
Head Collated Letters, Dishes, etc.
Report: Pat Hennessy to Dr. J. Seward, with regard to Dr. Seward, London, the report that Dr. Seward, their moving, said that some of the letters were on the 10th of October 1901 (SOURCE: BBR)

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GALAXY v2.42 (407) Easy to use. Mouse, EGA support.
PC-WRITE MACROS v1.2 (458) 100 commands for PC-Write.

MUSIC

COMPOSER (313) Create, edit and play music. (CGA)
CHRISTMAS SONGS (311) Collection of your favorites.

UTILITIES

PROFESSIONAL MASTERKEY v3.0 (2805) Like Norton's. Retrieve deleted files. A lifesaver (2 FD or HD)
TECHSTAFF TOOLS (3068-3069/2 disks) 13 utilities no computer should be without!
SCREENSAVER v1.05 (UTL21) Save monitor from burn-in. For all video displays.
DBS-KAT (UTL 30) Catalog your floppy disks (HD)
BRADFORD v2.0 (2729) Beautiful fonts for your dot matrix.
PAS MASTER MENU v1.02 (UTL33) Interface for multiple user passwords. (HD)

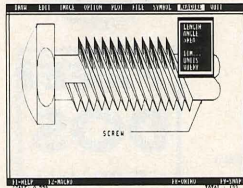
DOS

TUTOR.COM v4.4 (1301) Interactive DOS tutorial.
HELPPDOS v2.0 (1326) On-line DOS help with menus. Includes DOS dictionary of terms and a hints menu.
HARD DISK MENU IV (1332) Organize HD for speed, ease of use. Password protection.

STILL RIVER SHELL v2.58 (1304) Run DOS commands from menu. Makes DOS easy.

GRAPHICS

MIND CHART (GRA37-GRA38/2 disks) Menu charting and drawing programs.
SIMCGA/HGCIBM (1027, 1062/2 disks) Use with Hercules graphics card/compatible to run CGA programs on your monochrome.
IMAGE-3D (1048) Create, edit 3-D objects. Move, scale, rotate image (CGA).
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DRAFT CHOICE (GRA6) Excellent menu-driven CAD program. Mouse support.



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AS-EASY-AS (505) Has screen help menus. A Lotus clone that reads Lotus files.
PC-CALC+ v1.0 (512-514/3 disks) Jim Button's famous Lotus clone (2 FD or HD)
PIVOT v1.01 (516) Prints Lotus or As-Easy-As files sideways.

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MARKETCGA v2.2 (BUS17) Analysis on stocks, funds, etc. EGA ver. is **BUS 16 (CGA)**
AMORTIZE (BUS113) Calculate, print loan amortization schedules.
TICKLEX (BUS62) Appointment calendar with reminder, alarm, timetable, etc. (HD)
MEDLIN ACCOUNTING (757) G/L, A/P, A/R and payroll.
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FLU SHOT+ v1.5 (1225) Protection against viruses!
VIRUS STOPPER v2.0 (1223) Protect your system from viruses and trojan horses.

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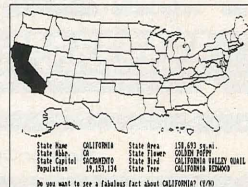
PC-FILE:DB (853-855/3 disks) Report-writer, dBASE III+ compatible. (HD)
FILE EXPRESS (803-804/2 disks) Powerful system. Allows 32,000 records. Sorts up to 10 fields (2 FD or HD)

RELIGION

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BIBLEWORKS (3356-3361/6 disks) Bible with concordance, allows editing. Old and new testaments (2 FD or HD)

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AMY'S FIRST PRIMER (248) Game that teaches letters, numbers, keyboard (CGA)
FACTS 50 (239) Geography lessons for U.S. (BASIC).



PC FASTYPE v3.01 (241) Touch typing instruction with WPM, accuracy, etc. (CGA)
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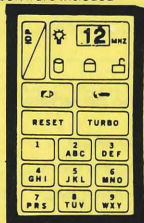
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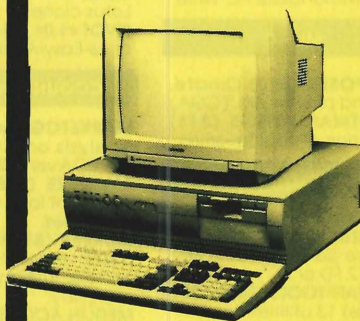


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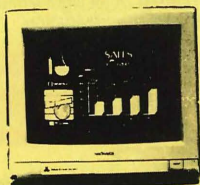
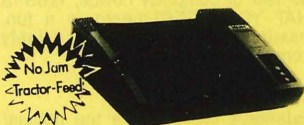
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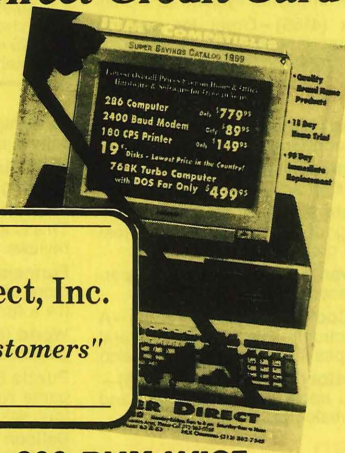
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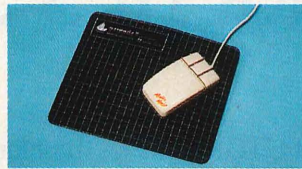
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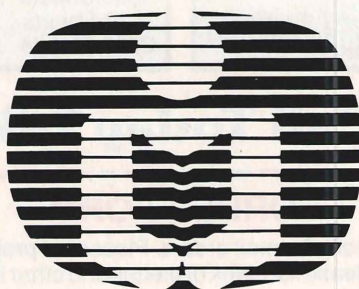
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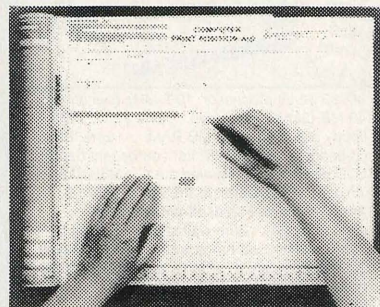
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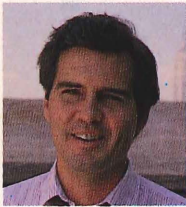
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Minding Business, Minding Kids

BY NICK SULLIVAN



I recently took my two-year-old daughter to the doctor. When it came to scheduling a follow-up visit, the doctor said, "There's no good time, right? You can't get off work."

"Right," I said, "there's no good time. But I'm somewhat flexible because I work at home."

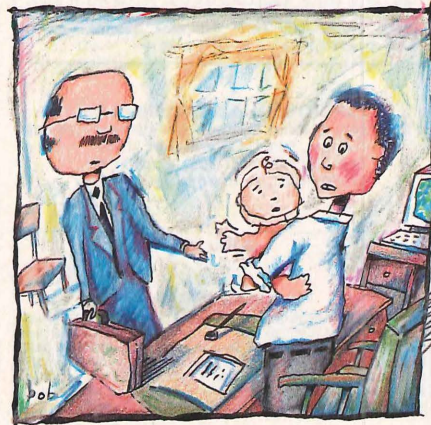
"Oh, you run a day-care center," the doctor said, seemingly surprised, but satisfied that he had explained to himself why I was carrying a diaper bag on a weekday.

"Yeah, I sure do," I said jokingly, thinking of the amount of time I spend working at home with two preschoolers underfoot. (I also have a four-year-old.)

This short conversation synthesized the many thoughts about child care that have been floating around in my head. I've been thinking about the many ins and outs of raising children and working because it's hard *not* to; because a child-care arrangement that works in the spring doesn't necessarily work in the fall; because what's good for parents is not necessarily good for kids, and vice versa; because our kids sometimes get very mad at us for working instead of playing with them; and because every day I read newspaper articles pointing out the shortcomings of business and government in providing adequate care for both the country's current workers and its future workers.

Working at home is definitely not a solution to the preschool child-care problem. It's clear that you can't work and entertain, nurture, pacify, and teach children at the same time. At least, you can't do both *well* at the same time. But working at home allows for arrangements flexible enough that both parents can work and entertain, pacify, nurture, and teach without becoming contortionists. In our case, my wife is self-employed, which certainly helps. She takes advantage of that flexibility to close up shop if and when she has to.

Take the current case. Two-year-old Lucy was sick for two weeks and couldn't go to her



"We often feel as if we're working in a foxhole, with bombs bursting around us."

day-care center. My wife took her to the doctor several times before I did. If one or both of us didn't work at home, our options would have been far less attractive: either take many days off work or send Lucy to day care and hope for the best. As it was, we could keep her home and both continue to work, though work time was fragmented.

We're more flexible on an ordinary day as well. After we drive one kid to day care and the other to nursery school, we don't have to commute to the office. We just go back home. Since we travel less than most working parents, our mornings and evenings are less stressful than they might be. We're frequently reminded of this by early morning calls from friends down the road, both doctors, who are rushing off to work, wondering if their three-year-old might hitch a ride.

Working from home means you can keep your kids home more when they're healthy, too. A week of whole days away from home is a bit much for a two- or three-year-old, it seems to me. But a youngster who stays at day care through lunch and then comes home in early or mid-afternoon leaves the bulk of the workday to the parents and still has time to "hang out" at home.

Occasionally, one of the girls doesn't want to leave home in the morning, and more often than not we'll let her stay home. We are not paramilitary parents (though we are in training). Our thinking goes like this: The kids are going to be in school for the rest of their lives, so why push it? Sometimes we resent the fact that they stay home and ruin what had promised to be a day of uninterrupted work; but that is how we choose to exercise our flexibility.

One potential side effect of less time in day care is a smaller child-care bill. But, we don't look at our situation as a chance to save money. When we keep the girls home and try to work, we invariably shortchange ourselves, our work, and our kids. Though both my wife and I can work with kids in the room or on our laps, such an arrangement does little to foster parent-child relationships and makes it difficult to do good work. Thus, we often pay a college student \$5 an hour to babysit while we work.

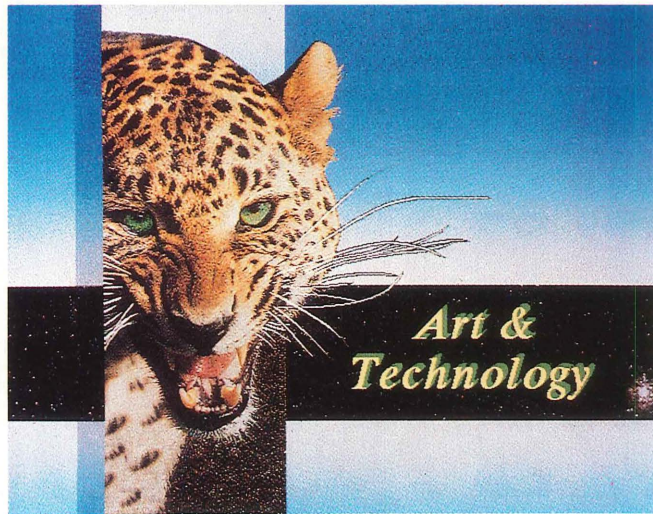
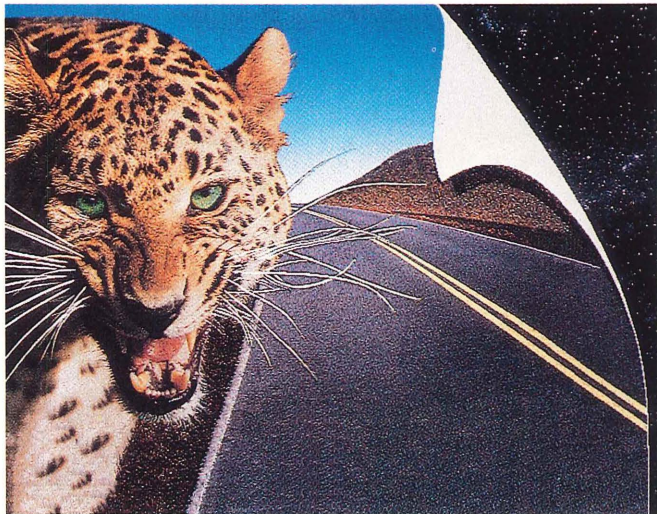
But, luckily, our situation gives us the flexibility to fine-tune any arrangements that don't work. I hear and read stories about people who stop working because taxes and child-care bills eat up too much of the paycheck; or couples who work different shifts so that one can stay with the kids while the other works; or fathers who have to sneak out of work early several days a week to pick up their children before nursery school closes. The stress created by these inflexible situations has to spill over somewhere and affect the marriage, the family, or the work.

Despite the advantages of our situation, we still feel as if we're jumping through hoops to raise kids and produce good work at the same time. We have moved away from the 1950s model of child care—the mother stays home and the father goes off to work. That simple system created unhappiness and stressful marriages, too. Many of today's parents are moving toward a better and more equitable way of meshing work and family responsibilities, but it's infinitely more complex.

When the doctor says there's no good time, he's right. We often feel as if we're working in a foxhole, with bombs bursting around us. But working from home gives us a little more time, and that makes it a little easier to find workable solutions to knotty problems. Even if I do look conspicuous carrying a diaper bag. ■

NICK SULLIVAN is a senior editor who telecommutes to the New York office from his home in Massachusetts. He can be reached on MCI Mail (ID: NSULLIVAN) or on CompuServe (ID: 76703,744).

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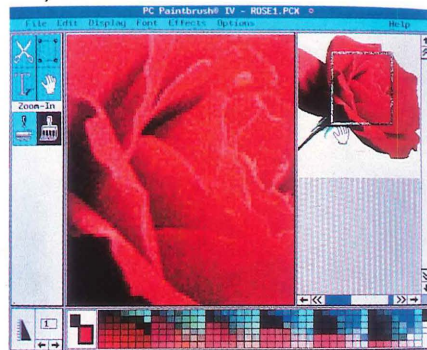
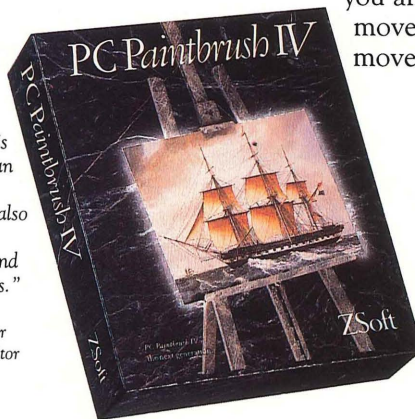


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